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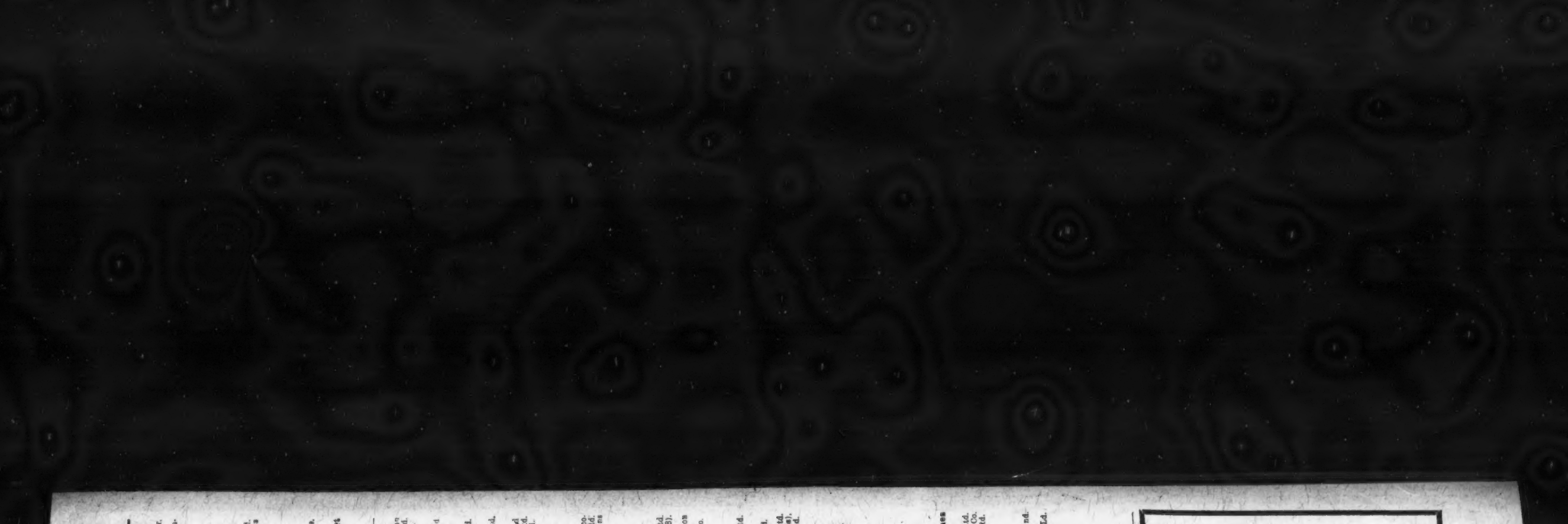

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THE BUILDER

A JOURNAL FOR THE ARCHITECT AND CONSTRUCTOR.

WITH WHICH IS INCORPORATED THE "BRITISH ARCHITECT."

VOL CXXII.—No. 4125 FEBRUARY 24, 1922.

MUNICIPAL FINANCE.

IT is absolutely essential that the country should now settle down to a sane policy of sound finance based upon reasonable payment for work done, freedom from bureaucratic control and quickening of initiative by offering incentives to personal ambition to succeed and improve. We have had a long and instructive lesson upon Government trading and officialdom, and of the lack of business capacity by many civil servants, who, working for a salary, are so frequently uninfluenced by the commercial success of their undertakings and whose success, indeed, often depends upon their absorbing extraneous functions to add to their aggrandisement regardless of the effect of such proceedings upon the pocket of the taxpayers. We have now before us a programme for municipal combinations and trading which, if it comes into operation, is not only likely to stifle initiative but produce intolerable burdens upon many still feeing the effects of the war, and the disorganisation of their work, which may well be absolutely crushing.

We have no intention whatever of entering the political arena; politics are not part of the functions of this journal, and were we to identify ourselves permanently with any particular parliamentary or municipal party we might well find ourselves at some time or other pledged to support proposals much at variance with the interests which we endeavour to serve. At the same time, when these interests are dealt with we feel we have not only a right but a duty in the matter of putting things on paper as we see them and urging our readers to use their privileges of citizenship. We refer, of course, to the forthcoming London County Council elections, now very close upon us. The supineness of the public at these elections is really astonishing. *The Times* reminds us that on the last occasion only 15 per cent. of the electors troubled to go to the poll. The new Council is in office for three years, a long enough period to have a very marked effect not only on the building and property interests during this time, but, if wrongly directed, to prejudice these interests for many years to come.

No doubt some further process of equalisation of rates is inevitable; the growth and complication of the Metropolis and its services is an ever-increasing difficulty, but what is essential is an adequate extension of such inducement towards local economy as shall still render local municipalities really responsible to the electors in the matter of expenditure. If this responsibility is allowed to pass, we are likely to see an orgy of spending on the destructive principle that somebody else pays. If anything were wanted to bestir those indifferent to their civic duties nothing better could be found than the recent action of the Poplar authorities. No one will accuse us of selfish or unfriendly feelings towards the genuinely unemployed anxious for work, but what everyone, including every working man, has got to learn is that there is only a certain amount of money available, and that the measure of this money is the work done by the country. It seems almost childish for anyone to suppose that the nation, bled by taxation, can afford to keep those out of work on what is practically a full wage. It is very easy to talk of the wealth of the country, and to point to cases of persons with more money than they need, but the working man is never given figures to show how trifling would be the result of reducing this class to poverty and distributing its wealth over the whole community. Moreover, this wealth is not locked up, it is in constant circulation and giving much employment, and were it removed there is no doubt a great many persons would be added to the unemployed roll.

But we must cease generalising. "The rapid erection of houses to be let at the lowest possible rents" is given as an item of the proposed Labour programme at the forthcoming London County Council election, and we should like to have an explanation of what this means. We appear to have seen the end of the disastrous Government housing policy; does this scheme mean the inauguration of a new State-aided venture? We have consistently pressed the view from the very first that the nation cannot be housed any more than it can be clothed, except on business principles. What profit is it to rob Peter to pay Paul, and as for shifting the burden on to those able to pay it is absurd to suppose that two or three million persons in comfortable circumstances can support thirty million others. The working man will pay. He will pay in increased rates and taxation unless he wishes the country to end in insolvency. We are aware that the cost of many materials might be now lower, but will this be achieved by municipal trading, and does past experience suggest that this is conducted on business lines?

We have only to look at the rates of the Labour boroughs for a reply. What we want is freedom to work out our individua salvation—freedom for every man to do his best and to work as long as he pleases for the most money he can get for his services—and we will undertake to say that, though he would often refuse to confess it, the working man who is a working man and wants to rise in his work, shares our view. Let Labour have its safeguards by all means; let us sit down and devise a scheme whereby no avarice on the part of an employer shall 'sweat" the workman or oppress the weak; let us see to it that those who through no fault of their own have fallen upon evil times have the help and support of the community; but, given this, let us meet the position as any business firm would meet it with national assets and liabilities fairly set out side by side, and try to realise the paradox that more work for less pay is the only practicable means of eventually obtaining more pay for less work.

One thing more: there is a sinister note behind the Poplar movement, a note which we believe the saner section of Labour repudiates, but which they may have to voice if the present programme comes into operation. No one can believe that the leaders of Labour imagine that the nation can carry on unless it is self-supporting; the sinister alternative is the wrecking of the whole constitutional fabric. This is ardently desired by a handful of communists to whom no European object lessons make any appeal because their programme is pure destruction. These men are no friends of Labour, and merely seek their own advantage at the cost of the community —how apt their title! Let us hope that in this coming election more than 15 per cent. of the electors will record their views and that these views will be sane ones.

NOTES.

A Great Opportunity.

A BUILDING project which is to cover all the island site bounded by Piccadilly-circus, Regent-street, Air-street and Piccadilly, raises visions of great and attractive possibilities. Architects will wonder how far the design of the new stores which Messrs. Harrods propose to erect on the site will be governed by the deliberations of the eminent architects consulted about the Regent-street improvement. One of the finest possibilities in modern London has centred round the lower part of Regent-street, with its splendid vista over Waterloo-place to the Park. This fine street, rising gradually to a nobly treated Piccadilly-circus, might have been worthy of a great capital city.

Quest for a War Memorial Design.

IN the columns of a Hereford paper we have an account of the proceedings of the County and City War Memorial Committee. They began with a design by Mr. W. D. Carée, which had to be abandoned owing to the inability to raise the required sum of money. So after paying for that design they instituted a competition, and Mr. Bligh Bond, "whose design was most favoured," withdrew "owing to the pressure put upon him by the Institute of British Architects"—"owing to the pressing of those trade union rules and regulations which had operated in connection with the Institute of Architects," as one speaker remarked. This combination of circumstances compelled the executive to abandon the Cathedral Close as the chosen site, and they decided to recommend the committee to begin again *de novo*, and they recommended that Mr. Barnard, F.R.I.B.A., of Cheltenham, should be asked to prepare a design for a Queen Eleanor cross. So that gentleman is to give Hereford a Queen Eleanor cross, to be erected in St. Peter's-square, on terms to be agreed upon, not to exceed £2,000 inclusive. And the report says, "The Institute of British Architects could not interfere with such an arrangement as *that!*" Perhaps it may occur to the committee, now it is employing a Fellow of the Institute, that it might as well have arranged this competition in accordance with the views of the Institute of which its architect is a member.

The English Country House.

A RECENT criticism would remove one of our most interesting English traditions. It is perhaps too late, however, to assume that large country houses will no longer be erected and that the fine expression of our national architecture in this direction has practically come to an end. Are there to be no people left in our land but day labourers and half-starved professional people? Are county families to become extinct, and are rich people to have no longer either the desire or the courage to make themselves beautiful houses? It may perhaps be hoped that some people may yet erect fine houses in which cultured people can spend pleasant times together, but we cannot shut our eyes to the fact that the criticism of such luxuries is becoming more widespread and insistent.

Tempera Painting.

MR. J. D. BATTEN'S lecture on tempera painting at the Ashmolean Museum, Oxford, in connection with the exhibition of the Society of Mural Decorators and Painters at present on view in the Museum, is one which, in relation to its importance, should be in the hands of every student of painting. His explanation of the fundamental difference between methods of painting as they existed in Italy in 1400 and as they exist at the present day points to the very real need for more knowledge on a subject of such importance to the welfare of art. As the lecturer stated, "We have a great wealth of science in books and in the minds of the learned, but in the minds of the craftsmen a greater poverty of science than can be recorded for many centuries." We cannot resist quoting another very pregnant saying of the lecturer, which has its application so much in these days: "We have forgotten how much there is we need to learn that cannot be taught by words—the look and feel of things. If the architect had known the feel of a piece of English oak, under the saw, under the plane, under the carver's gouge and chisel, he would never have designed *that* chancel screen." He went on to say that "if the mural painter had known the feel of the plaster under the trowel, the feel of the pigment under the muller, he would never have wished to do *that* painting so." It is impossible in these few references to do any justice to Mr. Batten's valuable remarks, but we make them in the hope that his conclusions, based on years of experience and fine practice in the arts, may reach a wider circle.

County Hall Wall Paintings.

THERE is a good deal of surprise and criticism at the arrangement which, we understand, has been made for decorating the new County Hall. The walls are being allotted to students from the Slade and other schools. If the work is to be kept for students, and only students, it is exceedingly discouraging to artists of experience in wall-painting and of attainment in their practice. As a consolation, it has been suggested that they will be probably all painted out in the course of a few years! We seem to recall the case of another Town Hall in which this has already happened. We understand that eleven students from the Slade Schools have been given walls, but only to be actually

From the Exhibition of Works by Past and Present Scholars of the British School at Rome, at the Royal Academy.

A Relief. By MR. CHARLES SERGEANT JAGGER.

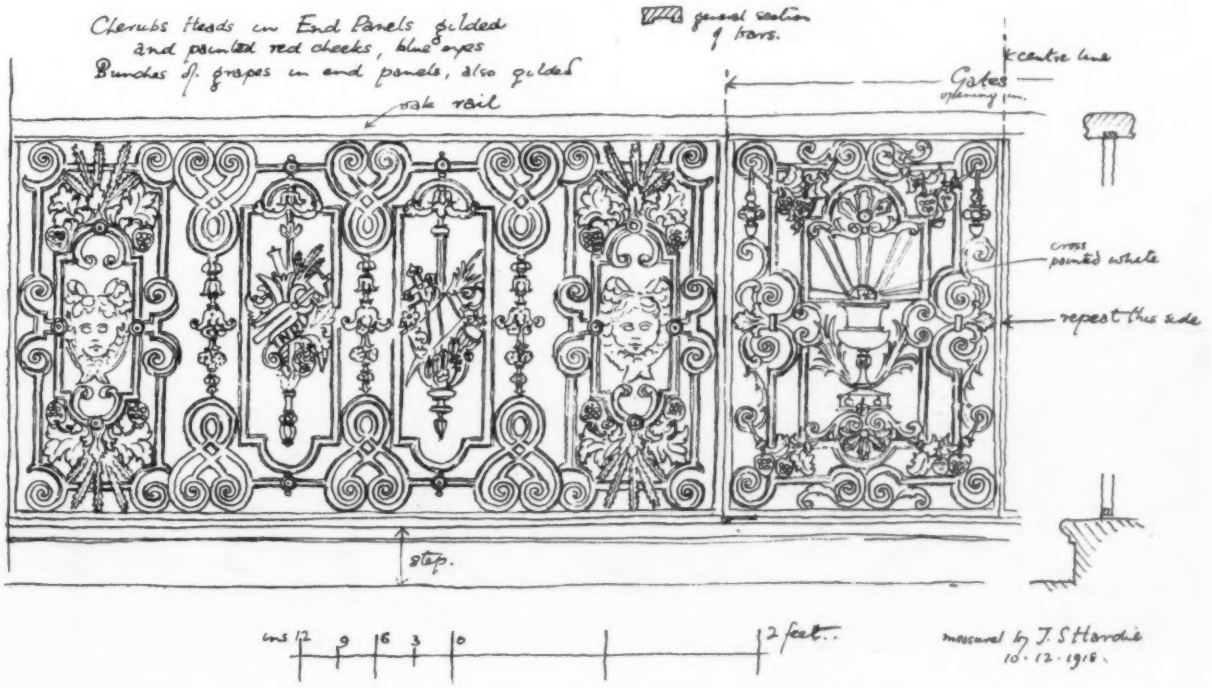
Paisley War Memorial Competition.
Design submitted by MR. A. WILLEY and MR. V. O. REES.

commissioned (at a very low rate) upon acceptance of the sketch design. The rejection of the artist in this way passes comprehension. What would people think if the doctors in our hospitals were superseded by the medical students? Why not do the work of the law courts with law students instead of judges? That work of this public importance in a building which is one of the most important in the Empire should be arranged in such a way over the heads of well-known artists, and the claims which attach to responsibility and experience, is surely without precedent. The artist is in these days sacrificed, not once or twice, but always. But even the cleverest of the students—and we recognise to the full the promise shown in some of their work—might well feel the difficulty of tackling a large wall in a great building with none of the experience of men who have done such work. We hope to see an organised protest against an abuse so unfair to the artist—though unfortunately condoned by a few artists themselves—and which is opposed to the interests of art and, therefore, of the country.

Chiswick Civic Association. THE old title of the Chiswick Residents' Committee has been changed, giving place to the new name—Chiswick Civic Association—although the original policy remains unchanged. This body came into being in 1918, at the time of the introduction of the Brentford Gas Bill, and was instrumental in preventing the river bank—near Barnes Bridge—being covered with "gasometers and all the contaminating paraphernalia of elaborate gas plant." The main objects of the Association are to create and maintain the interest of municipal voters and residents in the local life of Chiswick, so as to provide sound and economic local government and good citizenship and to preserve the amenities of the neighbourhood. One urgent matter which calls for attention is that of the provision of a sports ground and park for Chiswick residents on Duke's Meadows. The meadows, recently taken over from the Duke of Devonshire by the Chiswick Council, consist of 200 acres of excellent open land, with a frontage to the river.

Frescoes. IN the report of a contemporary the paintings recently executed for the War Office are described as "frescoes," and in the account of a libel case which has arisen in connection with the pictures they are spoken of as "some wonderful frescoes." In the official notice of them they are, we believe, written of as "spacious frescoes." As a matter of fact—and the point is an important one—they are not frescoes at all, fresco being a method applied directly on the wall itself. Nor are they wall paintings, since they were not painted on the walls. All this sounds obvious enough, but it illustrates the entire ignorance in the public mind of the nature of wall painting, which has its own conditions, arising out of site, altitude, lighting and general approach, and is wholly different in kind from the "painted on canvas" substitute which is afterwards attached to the walls, and which has taken the place of genuine wall painting. As the result of the work of the Mural Decorators' Society, we trust that a better understanding of what is meant by fresco and wall-painting will be reached in time. The fact that pictures on canvas are painted in studios to be fixed afterwards on the walls of a building elsewhere is wholly unsatisfactory, and evidence only of the deterioration of one of the greatest arts, and of a neglect by artists of its needs and of the labours and sacrifices required for the practice of it.

Princes-street, Edinburgh. THE beauty of Edinburgh is a national possession, and one cannot wonder, therefore, that a protest comes from York against its disfigurement by iron uprights and overhead wires, in Princes-street. Edinburgh is renowned for the culture and intelligence of its citizens; we wonder, therefore, whether they can offer any effective protest against the attempts which are made from time to time to impose upon them the disagreeable conveniences of our modern civilisation.


Cherubs Heads on End Panels gilded and painted red cheeks, blue eyes
Bunches of grapes in end panels, also gilded
general section of bars.
centre line
Gates opening in.
side rail
cross painted white
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2 feet.
measured by J. S. Hardie 10.12.1918.

Detail of Cast-iron Altar Screen, Honnechy Church, France. Measured and Drawn by MR. J. S. HARDIE.

GENERAL NEWS.

Professional Announcement.

Mr. S. H. White (late Messrs. A. T. Walmisley & White), civil engineers, of 9, Victoria-street, S.W., has taken into partnership his son, Mr. L. A. White. The business has been established for over half a century, and is now carried on under the style of S. H. White & Son.

Memorial to the Duke of Norfolk.

A memorial to the late Duke of Norfolk (the 15th Duke) was unveiled at the Fitzalan Chapel, Arundel, last week. The memorial consists of a recumbent bronze figure of the duke robed as Earl Marshal of England, mounted on a slab of Sussex marble. It is the work of Sir Bertram Mackennal, A.R.A.

British Empire Exhibition.

It has been decided to postpone the opening of the British Empire Exhibition at Wembley Park, which was to have taken place in 1923, to 1924, as it has become evident that the project was so vast that it could not be adequately prepared by next year.

Civic Survey of London.

The London County Council has accepted from the Civic Survey Joint Committee the plans and diagrams prepared by the Civic Survey of London during the war. The collection is to be known as "The Royal Institute of British Architects (Civic Survey Joint Committee) Collection."

A Surveyor's Estate.

The late Mr. Edward Betteridge, of Birmingham, surveyor, who died on November 26 last, left estate valued at £9,792.

Obituary.

The death has taken place of Mr. Joseph R. Whittle, of Amble, sculptor.

Westminster Abbey.

Sir Banister Fletcher, F.R.I.B.A., on Wednesday last, delivered an illustrated lecture on "The Architecture of Westminster Abbey," at the Central School of Arts and Crafts, Southampton-row, W.C. He will deliver a similar lecture at the same place, on "The Tower of London," on March 1, at 6 p.m.

Barking Old Town Hall.

Reports of the possible demolition of the old Town Hall at Barking, an Elizabethan building, have caused concern to the Essex Archæological Society, which has passed a resolution asking that it shall be preserved. It was originally built as a Court-house to the Manor of Barking, which was for a century the property of the famous Abbey. The local council has not yet come to any decision in the matter.

The Sir John Soane Museum.

The Trustees of the Sir John Soane Museum have published a set of 12 postcards of the famous Hogarth pictures, "The Rake's Progress" in eight, and "The Election" in four scenes. "The Rake" was painted in 1735, and "The Election" in 1754-7. For these pictures, of such value to-day, Hogarth only received 176 guineas for "The Rake," and the set was bought by Sir John Soane in 1802 for 570 guineas. David Garrick gave the painter 200 guineas for "The Election," and Soane bought the same at Mrs. Garrick's sale in 1823 for 1,650 guineas. The postcards have been reproduced by The Rembrandt Intaglio Company from photographs taken by William Gray for the Museum. The price of the set of 12 cards, which are sold at the Museum, is one shilling. The Soane Museum opens this year on Wednesday, March 1, and will be open, free, until the end of August, on Tuesdays, Wednesdays, Thursdays, and Fridays, 10.30 to 5 p.m.

COMPETITION NEWS.

Kirkcaldy.

The premiums in the Kirkcaldy war memorial competition have been awarded by the assessor, Mr. Alexander N. Paterson, as follows:—

First (£50), Mr. J. S. Mackay, 80, Finlay-street, Dennistoun, Glasgow.

Second (£30), Mr. J. M. Honeyman, A.R.I.B.A., Castle-road, Glasgow.

Third (£20), Mr. Wm. Williamson, F.R.I.B.A., Royal Bank Buildings, Kirkcaldy.

Truro.

The Truro City War Memorial Committee has provisionally accepted the design of Messrs. Whitehead & Son, London.

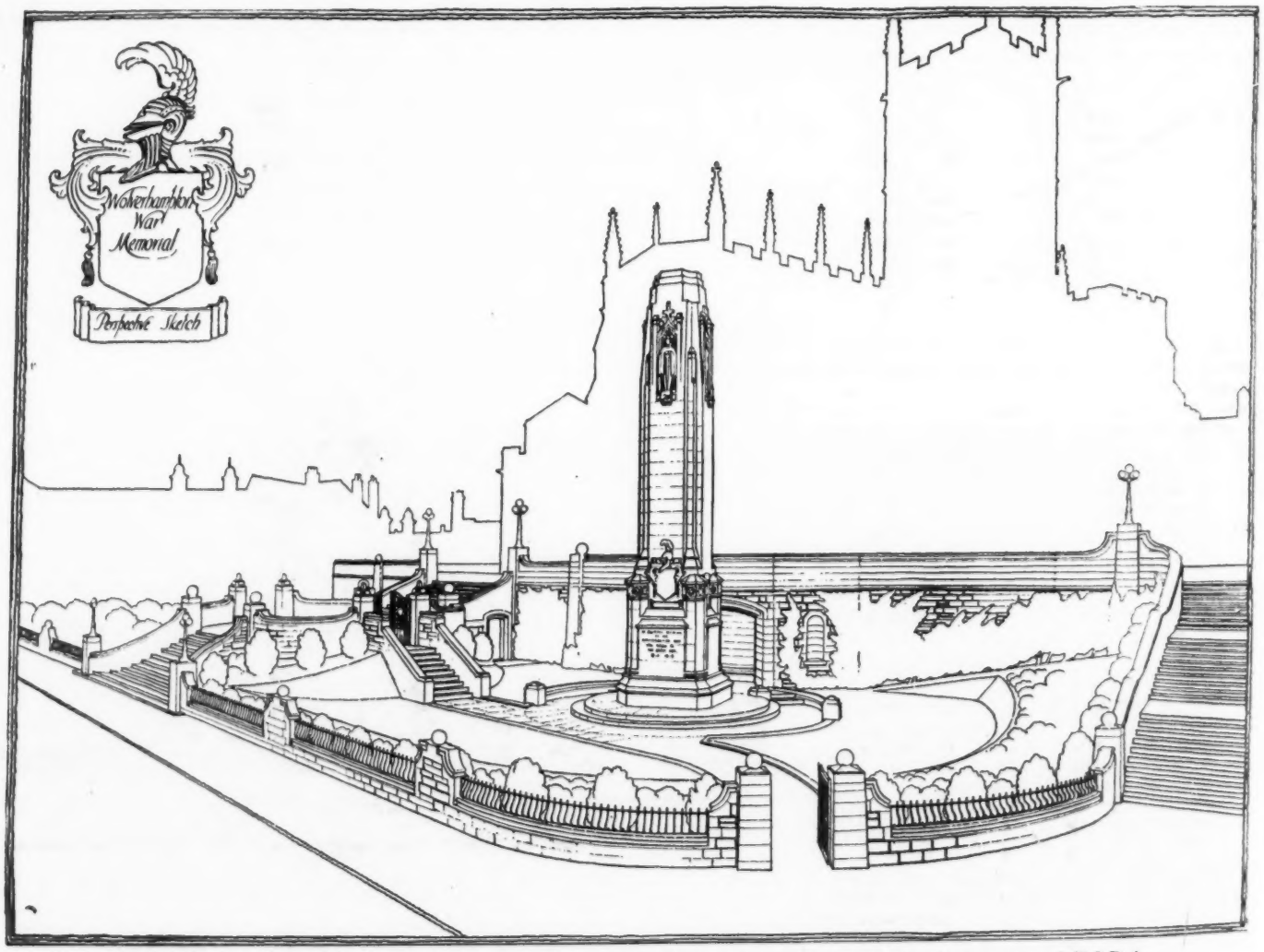
Auckland.

The date for receiving drawings in the Auckland War Memorial Competition has been extended to June 30.

The "Answers to Questions" relating to the Auckland war memorial competition have been received by the R.I.B.A. from New Zealand. Duplicate copies can be obtained by competitors on application to the Secretary, R.I.B.A., 9, Conduit-street, W.1.

Other Competitions.

Other competitions still open include the following (the dates given are, first the sending-in date, and second the issue of *The Builder* in which full particulars were given):—Auckland war memorial (June 30; Sept. 2, 1921); Trujillo (Peru) monument (June; Jan. 13); Dundee War Memorial (April 30; Jan. 6); Colour Competition (May 1; Feb. 17).



Wolverhampton War Memorial Competition. First Premiated Design, by MR. C. T. ARMSTRONG, A.R.I.B.A.

CORRESPONDENCE.

Unification and Registration.

SIR,—There is every prospect of the Council's actual proposals in the matter of unification being laid before the members of the R.I.B.A. long before the next general meeting, for consideration of the matter, can be held; but it will be well to correct some of the imaginary ones at once. In the first place, there is the now familiar fiction of the words "all architects" used in the sense of all who call themselves architects being admitted to the Institute. Happily, those who deal with the business of the R.I.B.A. know exactly what an architect is and are in no danger of mistaking an undertaker for one. Those who, all too credulously, accepted this fiction should look through Scheme "A" (published in the *Journal* for May 28, 1921) and they will be reassured.

Then there appeared at the meeting on the 7th instant to be an impression that the suggested temporary procedure for admission to the R.I.B.A. was actually to be permanent. This is not the case and a reference to Scheme "A" makes it clear.

One speaker referred to all outside architects being admitted to the class of Associates. It is scarcely necessary to explain that this is not intended.

What one would like to hear explained is why Mr. Cross and Mr. Hubbard, after preaching registration by statute steadily for a great many years and addressing meetings up and down the country on it, are now suddenly convinced that it is an impossibility. It is a view that many of us cannot share. Also, why Mr. Perks, having distinctly stated that a Registration Act will "never" be obtained, asks us to postpone unification until such time as a Registration Bill becomes law It is an odd proposal, but perhaps he has some ground for it that is not apparent.

As an Institute man I naturally wish unification to be in the hands and under the direction of the Institute and not in the hands of a body set up by Act of Parliament. May I give just one instance of how registration under an Act operates? It comes to me from Mr Hurst Seager and relates to New Zealand, where registration by statute is an accomplished fact. A builder applied for registration, was refused, applied to the court under the terms of the Act, and was placed on the register because the judge was satisfied that he practised as an architect. It is apparent at once that this would not happen under Scheme "A" for unification within the R.I.B.A.

May I point out, especially to the younger men in opposition, that the same warnings and alarms as the present ones were heard when the class of Licentiates was formed about twelve years ago: it was stated that the prestige of the Institute would suffer, that men of good standing would withdraw, and all the rest of it. I think no one will contradict me when I say that the Licentiates have justified the measure of confidence reposed in them, that they have shown great abilities, and that their alliance with the Institute has been of much value to it. So much is this the case that it is generally felt to be due to them that they should have a larger share in the management of, and responsibility for, the affairs of the Institute.

Is it too much to ask for the opposition that is being so strongly and, as I think, unfairly pushed to be held over until the scheme of the Council in detail is published? At present the talk about the matter is wide of the mark, and the desire of those who are working the opposition seems to be to prevent the Council from being given time to develop its scheme and place it before the members.

A thing not sufficiently realised is that we have legal power to prevent any outside architect from using initials that would suggest membership of the Institute. A Registration Act might give us the power to prevent anyone not on the Register from using the designation of "architect." Which has more value?

ARTHUR KEEN,
Hon. Secretary.
Unification and Registration
Committee, R.I.B.A.

SIR,—Many provincial architects, like myself, who attended the special meeting of the R.I.B.A. on the 7th instant, must have been very disappointed when they opened the R.I.B.A. *Journal* to find that the resolution which was carried is null and void, owing to the rule of a two-thirds' majority.

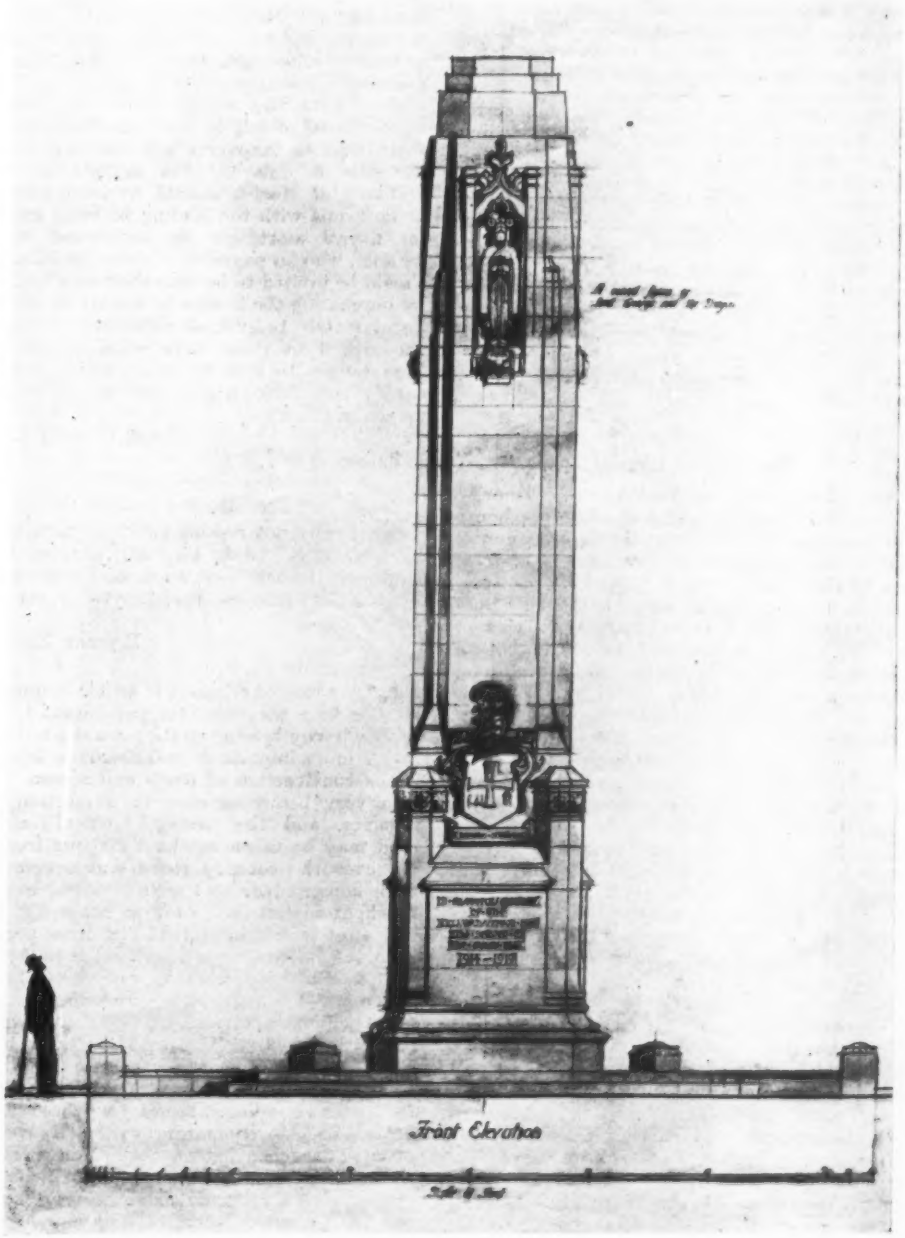
London architects and those who practise in large towns evidently have no idea how highly prized are the letters "A.R.I.B.A." by their country cousins, who have to compete with the small auctioneer and builder's clerk, who style themselves "architects" and carry out a considerable amount of architectural work. If all who call themselves architects are to be admitted into the Institute, then the examination which we passed, and which lifts us above these others in the eyes of the public, was all in vain; and it was to prevent this and maintain the status of the R.I.B.A. that we journeyed to London to vote against the proposition to admit "all" architects into the R.I.B.A.

PERCIVAL C. BLOW.
St. Albans.

Preventing Overcrowding in the Profession.

SIR,—In view of the general discussion which has been taking place recently in connection with the number entering the architectural profession, and the suggestion made that the schools are unduly encouraging students to enter a profession in which there is little chance of their obtaining a reasonable livelihood owing to its already overcrowded state, the Council of the Architectural Association has asked me to issue the following statement as to the steps taken to ensure that only those who show an aptitude for architecture, and are likely to become efficient and useful members of the profession, are allowed to enter or remain in its schools:—

In the first instance, no candidate's application for admission will be considered unless he or she has attained to a good standard of general education equal at least to the Senior Oxford or Cambridge Local Examination, or London Matriculation. Applicants who produce the necessary evidence of having reached the standard of general education required are interviewed and at once advised if it is



Wolverhampton War Memorial Competition.
First Premiated Design, by MR. C. T. ARMSTRONG, A.R.I.B.A.

considered that they are not fitted for the architectural profession.

Approved candidates are allowed to sit for the Entrance Examination, which consists of the following subjects:—(1) English composition; (2) freehand drawing from the cast; (3) mathematics (algebra, quadratic equations); (4) geometry (intersections of solids). A "Pass" must be obtained in Subject 2, and in any two of the remaining subjects.

It is not suggested that the examination is an infallible test of the candidate's suitability, but it does afford an opportunity of obtaining at least some indication of the ability and type of mind of those sitting for the examination, and a fairly broad view is taken in arriving at a decision as to which candidates are to be admitted, and which not. Those entering the schools do so on a year's probation, and if they do not justify their admission during that period they are asked to leave and are advised to take up some other calling.

I think it will be seen that it is not an easy matter for a student to enter our schools, and that it is not the case that admission is granted haphazard to anyone who cares to ask it, irrespective of suitability for the profession of architecture. If the architectural profession is overcrowded it is certainly not overcrowded with well-trained men, and as evidence of this I may state that during even the worst times there is little or no difficulty in obtaining paid employment for those leaving our schools on completion of training.

WILLIAM G. NEWTON.
The Architectural Association. *President.*

SIR,—*Apropos* the remarks of your correspondent, J. A. Woodgate, on the overcrowding of the profession, may I add that as a step towards solving this most important problem I suggest that no qualified architect should engage as an assistant a man who cannot claim the credit of having served successfully a term of indentures, together with a good general experience of the profession? It is because of such laxity of discrimination that so many qualified men are driven by financial straits to seek employment, which is undoubtedly contrary to the traditions of the architectural profession.

"C. J. B."

The Cost of Housing.

SIR,—I notice that it is stated on the authority of the Geddes Report that the loss per house to the taxpayer will amount to £55 per annum, and to the ratepayer £4 per annum—a total loss to the community of £59 per house—and that the average cost of houses is £1,100. Does the average cost of £1,100 include the cost of the site, development, and fees? If not, a further loss is made. Assuming that it does, I think a consideration of the figures will show that the Geddes Report very seriously underestimates the loss; especially so if the figure given in the report for loan charges is accepted.

In addition to interest on capital expenditure, an economic rent must include the necessary outgoings usually covered by rent in this class of property. An economic rent, then, on a house (with land, etc.) costing £1,100, will therefore be made up as follows, viz:—

Loan charges as given in Geddes Report (I should have said £65, capital and interest repayable in 50 years at 5½ per cent.)	£75	0	0
Maintenance repairs (1½ per cent. on capital, 15 per cent. on rental value)	19	16	0
Rates and taxes, with insurance (2½ per cent. on capital, 25 per cent. on rental)	33	0	0
Management and collection (½ per cent. on capital, 5 per cent. on rental)	6	12	0
2½ per cent. reserve fund for contingencies, improvements, and bad debts	6	12	0
per annum	£141	0	0
per week	£2	14	3

Now, Sir, if an economic rent is 54s. 3d., the loss to the community is the difference between this figure and the actual rent received. I do not think the average rent actually received will be 14s. 3d., and if I am right the loss to the community on the mad scheme of Dr. Addison is £2 per week, or £104 per annum, instead of the £59 given by the Geddes Report. "Net rent" is generally taken to mean the balance between receipts and outgoings, which is profit. I do not know what "net rent £16 per annum," mentioned in the Geddes Report, means, unless it is rent paid by the tenant, not including rates; in any case it certainly is not profit.

It would be interesting to know how much the Geddes Committee allowed for the overhead charges of Dr Addison and his staff of Director-General, Directors, Controller, Superintendents, etc, etc., etc. The country does not yet know what the Government housing policy has cost.

JOHN E. YERBURY.

London.

The Sale of Government Houses.

SIR,—Nearly two years ago you were good enough to publish a letter in which we expressed the hope that with the powerful aid of the Press the Government might be persuaded, before too late, to offer to sell the houses erected by it through the local authorities at two-thirds their cost, rather than let them at two-thirds their economic rents, and we pointed out that not only would this save taxpayers the cost of upkeep but would encourage thrift, and destroy socialistic hopes of State ownership and the nationalisation of housing.

Now with the falling prices we welcome the proposal of selling the houses at even half their cost, as taxpayers will lose still more if the sale is delayed. We suggest that the Ministry of Health should be empowered to make terms with the leading building societies for liberal mortgages to be offered to the tenants, who on payment of a small capital sum should be invited to become their own landlords by purchasing the houses by weekly or monthly instalments. Individual ownership should be encouraged in these days when people have been taught to look too much to the State to supply all their needs and shoulder their responsibilities.

ELLIS, COPP & CO.

Putney.

"The Housing Debacle."

SIR,—Why not reprint your excellent article by "H. J. B." (July 15, 1921), headed "The Housing Debacle"—a much better answer to Sir Charles Ruthen than anything yet published?

ROBERT EVANS.

Nottingham.

*** We cannot reprint the article in question, but we take the following paragraphs from it as they have a bearing on the present position:—

"A more important consideration, however, is the construction of roads and sewers. This is a very heavy expense in connection with schemes, and the average cost of a new road may be taken as about £50 per frontage. All over the country roads and sewers have been constructed, at the tax-payers' expense, for houses that will perhaps never be built. But most serious of all is the immense accumulation of materials. It is estimated that at the completion of all the present contracts which are let under the Government scheme there will be a surplus of 373 million bricks. Allowing 20,000 bricks per house, this means that the Government has contracted to buy bricks for 20,000 houses more than it contemplates building. Moreover, these bricks are at present congesting yards all over the country to such an extent that in many instances the makers are claiming payment from the Government for storing them. Bricks are only one of the many items of building materials that have been bought by the D.B.M.S. in excess of requirements owing to the present situation. The amount of wasted architectural work is enormous—so great that the Ministry has been obliged to issue a special scale of fees for abandoned work. From the national standpoint it all represents so much crude waste. Plans are a means to an end, and the end is not to be achieved. If a man buys a spade to dig his garden and then decides not to dig it he can at least sell his spade. But the Government cannot sell the thousands of architects' plans for which it is paying. Lastly, there are cases of houses on which building has actually begun being abandoned. The result will be that contractors will claim damages for breach of contract, and the Gilbertian situation has arisen of contractors being paid not to build houses. Can ineptitude go farther?"

Specifications.

SIR,—In reference to the leading article, *re* specifications, in last week's issue of *The Builder*, I strongly favour the view that, in 90 per cent. of cases, it is better for the quantity surveyor to write the specification. Owing to the haste of the average client to get his job started the general procedure of to-day is for the architect to send eighth-scale plans to the quantity surveyor, and to leave the preparation of the detail drawings until the builder requires them. The surveyor has, perforce, to measure the details "out of his head," basing them on his knowledge of the particular architect's practice. It is therefore impossible for the architect to give anything like a detailed specification until the bill of quantities is prepared; and then it is far simpler, safer, and quicker for the man who has "taken off" the job, and step by step "builded it in his mind," to write a detail specification which will agree with the quantities than for the architect to borrow the surveyor's notes, however well sectionised, and do it.

I am also of opinion that after an architect has spent much time and thought on such matters as planning and designing—which demand a breadth of view inconsistent with minute details—he is not in a proper psychological state to sit down and write anything but a skeleton specification which the surveyor must subsequently amplify. The quantity surveyor has only one objection to drafting, and possibly supplying three typed copies of, the specification, and that is he gets no remuneration for it.

"EFF-ESS-IGH."

Unburnt Bricks.

SIR,—I do not wish to enter into a public controversy with Mr. G. J. Skipper with respect to his letter in your issue for the 10th instant, but he and others interested have only to inspect houses made of unburnt brick, or of much cheaper material known as cob or *pisé*, to satisfy themselves that there is no comparison between these materials and bricks which have been properly made and burnt. It has been shown over and over again that the cost of bricks in a house is a relatively small proportion of the whole, and that therefore the saving to be effected would be so insignificant as not to matter in the least.

The reputed saving of £2 per thousand by not burning the bricks is a very serious exaggeration as applied to the country generally, although it may be more correct as regards an isolated and very small country brickyard. In any of the better-managed yards, near to medium-sized or large towns, the saving by abandoning burning would not be 10s. per thousand bricks, and such a saving would be more than expended in the additional cost of repairs on the buildings for which such bricks are used.

Whilst I am fully in sympathy with the use of many materials for building purposes, neither I nor any of your readers can get away from the fact that in the erection of workmen's houses under average conditions bricks are still by far the cheapest building material.

A. B. SEARLE.
(Author of "Modern Brickmaking," &c.)

Other Letters.

[Other letters are unavoidably held over.—ED.]

THE PRESIDENT (Mr. Paul Waterhouse) presided at a general meeting of the Royal Institute of British Architects held at No. 9, Conduit-street, W.1, on Monday last.

Internal Decoration of Ships.

A paper was read by MR. ARTHUR J. DAVIS on "The Internal Decoration of Ocean Liners." After a brief outline on the development of the steamship, he said an inspection of the interior of the *Olympic* meant a walk of no less than nine miles. It was more than a third of a mile around her deck, and from waterline to bridge she was about as high as a six-story building. She had eleven steel decks, seven of which were used by passengers. The two sets of reciprocating engines, each driving a wing shaft, whilst the middle screw was driven by a turbine, were the largest ever built. Each of the funnels was wide enough to take two railway trains running abreast, and they rose 81 ft. above the deck.

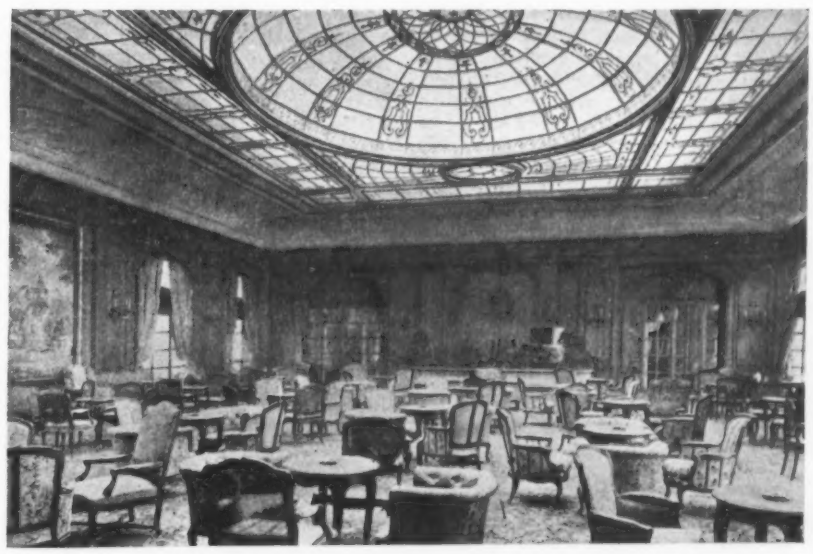
That rapid development had brought about a complete revolution in the methods employed both as regards the internal planning and the equipment of ships. With the inevitable necessity of specialising in many new directions, it had become the practice to employ experts to advise upon the various requirements of the modern liner, and not only did that apply to the actual planning of the habitable portion of the ship but also to her decoration, furniture, electric light, heating, ventilation and lift installations. As the natural sequence of that evolution, so far as the purely non-nautical construction was concerned, it was found that ship-designers could no longer deal adequately with the large areas and surfaces to be planned. The space for the important public rooms was so vast, and the height of those rooms so great, that the expert knowledge of the architect was necessary to deal with the arrangements of the available spaces. It had now been found advisable to bring the architect into contact with the ship-architect at the very early stages of the design. As he had heard it put rather appropriately, the ship was now in the hands of the "wet" and the "dry" architects. All the parts of her construction affecting her main lines, the sweep of her bows, the laying of her keel, her superstructure, and her navigating qualities were naturally in the hands of the "wet" architect, whereas the "dry" architect was called in and consulted when it came to planning her inside and finishing her public rooms and cabins. Architects had now become a virtual necessity in the completion of all large ships; not only were they employed in an advisory capacity, but it was usual for them to create and prepare the designs and supervise the contracts, as well as control the general decorative fitting up of the vessel in a similar manner to that adopted in all large buildings. The method pursued by the great shipping companies was roughly as follows: After they had decided upon the size, tonnage, and carrying capacity of the ship they intended to build, they invited tenders from the various ship-building yards. The contract having been agreed upon, and the builders having been appointed, the architect was next consulted, At that stage the position of the bulkheads. funnel casing, expansion joints, cargo hatches, &c., were virtually settled; but the spaces remaining still available for the planning of the principal public rooms, staircases, elevators, state-rooms, and service offices had to be dealt with. That was where the architect began his work. It must, however, be clearly understood that he was only called in to work out the interior scheme of the vessel in collaboration with the ship-designer, to whose knowledge of the laws governing marine construction he must necessarily defer.

All the features with which we had long been familiar in great hotels and public buildings were at the disposal of the architect in the planning and decorative equipment of the modern liner. So numerous were the rooms, so great the area, and so increased the available height, that it had now not only become possible but necessary to employ the recognised rules of architectural planning. The problems which arose after the construction of the vessel had been finally settled by the ship-designer were, indeed, in many ways so precisely similar to those requiring solution on land that in some cases it had been found advantageous to employ quantity surveyors to take out quantities and measure up variations in exactly the same way as on a land building. That experiment had proved successful, and the general tendency was to bring in more and more the technical adviser. The very rapid growth of ships had brought about such extraordinary changes that many precautions that it was found necessary to take in vessels of smaller tonnage could now be discarded in favour of systems which were daily applied in the planning of buildings.

The displacement of modern ships had recently been increased approximately from 15,000 to 50,000 tons. Those figures were in themselves a proof that many arrangements which were useful and even necessary in the past to cope with the requirements of a vessel half-submerged were altogether out of place on a liner of a length of over 900 ft., a width of 97 ft., and with its upper decks towering some 60 ft. above the water level. The port-holes had vanished from the upper decks, and had been replaced by large sash and casement windows, operated with ease by either passenger or steward. When those windows were shut, the natural air was replaced by an efficient and complete scheme of artificial ventilation, a supply of air at any desired temperature being forced to every part of the ship. Again, the immense addition to the tonnage of modern ships had made it possible to obtain long vistas through complete suites planned in the grand manner, even monumental and picturesque architectural effects being thus rendered possible.

For the first-class accommodation of an Atlantic liner such as the *Berengaria*, *Majestic*, or the *Aquitania*, each of which had eight floors or decks communicating with one another by elevators, as well as several staircases, on the lower decks, in addition to the many state-rooms, cabins, kitchens, and service-rooms, &c., were the great dining saloon (capable of seating from 500 to 600 persons), with an adjoining grill-room, foyer, and lounge, a large swimming-bath and gymnasium, Turkish and electric baths, and purser's office, &c. Above, on the upper decks, in addition to the main staircase and several lifts, were the ladies' drawing-room and writing-room, a hall, lounge, and ball-room, the verandah cafe, smoking-room, exhibition gallery, barber's shop, book and flower stalls, while on the converted German liners a restaurant and winter-garden were features of considerable prominence. The second-class accommodation, which was, perhaps hardly less luxurious than that of the first, was also placed under the control of the architect It had been recognised that every class of passenger expected to be provided with all the latest improvements, and not only were new suggestions constantly elaborated but everybody interested in the success of a new ship was encouraged to bring forward any fresh solution to the many problems which varied with every vessel launched. The state-rooms, frequently arranged in suites containing a sitting-room, bedroom, and bathroom, with the addition sometimes of a private dining-room, were the last word in comfort and refinement. In the bedrooms, double or single beds, made of some rare wood, oxidised silver, or brass, replaced the old awkward bunks placed one above the other. Finely-veneered woods, panelled and delicately-tinted walls, light washable materials for curtains and furniture coverings, and decorations free from all unnecessary elaboration, were as much the special feature of those rooms as the wardrobes, fittings, and cupboards, which were replete with every possible convenience. The artificially-ventilated inside cabin, so often and so rightly objected to, was gradually disappearing, and ingenious arrangements were now contrived to enable even the innermost state-rooms to receive fresh air and light, thus considerably enhancing their letting value. All the fittings of those cabins were especially thought-out and constructed for practical utility, the style of decoration selected for the room being maintained throughout.

Methods of design, appropriate when used in connection with buildings, could not be transposed without change and adaptation to the requirements of sea-going vessels. The architect who did not modify his designs to suit those special requirements would be seriously disappointed when he came to view the result. The pitfalls to be avoided were legion, and many schemes which looked very well on paper might



Social Hall on the "Berengaria."
MESSRS MEWES & BISCHOFF, Architects.

prove to be failures when put into execution. Decorations, for instance, should not be designed without full consideration being given to the sheer and camber, which in certain portions of a ship were considerable. It was occasionally noticeable that inexperienced decorators arranged the cornices of a large room to follow the "camber" of the underside of the deck line above, while overdoors, window bars, and dado mouldings were arranged horizontally. The effect thus produced was extremely unpleasant, and far more noticeable in execution than on the drawings.

Another temptation to be avoided was to overcrowd a room with heavy ornament and meretricious decoration. It must be remembered that on a ship a number of people were imprisoned together for days, and sometimes weeks, that they were forced to live a life altogether different from that to which they were accustomed on land, and that they were frequently compelled to look to the ship herself to provide them with interest and entertainment during an often tedious voyage. It was the duty of the architect to provide suitable surroundings combining an air of comfort and repose in the appearance of the different rooms, which were often of necessity seen under unpleasant conditions. The factor of relative scale was of paramount importance. It was a well-recognised axiom that no matter how large the rooms to be dealt with on a ship might be, somehow the scale appeared much smaller than that of a room of similar dimensions on land. The probable explanation of that was that the absence of heavy constructional piers, deep window and door recesses, &c., tended to diminish the monumental character. Hence, heavy or incongruous ornament looked doubly out of place when applied to the comparatively light construction of a ship.

Although the average life of a great liner might be assumed to be only about fifteen years, all the material and workmanship used in the construction must be of the very finest quality. Of late a great number of experiments had been made with new materials. Many of them had stood with remarkable success the severe tests to which they had been subjected, and there seemed to be no limit to future possibilities in that direction. It might be worth mentioning that there had been some prejudice, especially among foreign companies, against the employment of plaster ceilings, but in ships such as the *Mauretania*, *Laconia*, *Alsatian*, and *Olympic*, where such ceilings had been tested, they had been entirely satisfactory. To specify plaster and carton pierre for ceilings, domes, coves, and cornices might be safely recommended. Other decorative materials, such as stucco, tiles, mosaic, scagliola, and trellis might also be used with discretion; but marble and brickwork should be avoided on account of their weight, not only in appearance but in fact. It must always be borne in mind that the marine designer was obliged to give special consideration to that question, particularly on the upper decks. It was unfair, therefore, to handicap him with heavy or bulky materials, which might easily necessitate revision of calculations and involve an increase in the strength of the supporting structure.

Vibration at sea was also an extremely serious question in fast-going vessels, and materials which were likely to scale off or crack should be avoided. The architect must never forget that a ship was designed primarily to be in motion, and, further, that a vessel not merely moved forward, but was subject to lateral roll and a countless number of other strains. That applied not only to the vessel herself and every object she carried, but also to her human freight. The two principal movements were pitching and rolling, and although the latter had been minimised on vessels of recent construction, where such innovations as anti-rolling tanks had been installed, those movements were still felt to a considerable extent in bad weather. As the horizontal section through the centre of the hull of a ship much resembled the shape of an elongated cigar, the pitch or plunging movement was naturally less noticeable than the lateral roll. It was wise, therefore, to design all the swimming tanks and baths so that their length was parallel to the long axis of the vessel, the movement of the water they contained trying to regain its own level being thus minimised. The same remark applied equally to the planning of staircases and companion-ways, which were easier to negotiate in bad weather when the direction was fore and aft, or, in other words, parallel to that in which the ship was moving. In staircases, which should be substantially balustraded and not too wide, it was advisable to avoid winders, as well as awkward turns. Easy flights with comfortable landings were essential.

In a room where comfort was above all things desirable it was advisable to avoid the exaggerated use of skylights and glass domes. With the exception of vestibules, galleries, and stair cases, all reception rooms, wherever possible, should be lighted laterally. The principal objection to the use of skylights on a ship was that they were awkward to construct and difficult to keep airtight and watertight; they were not only liable to suffer from vibration, but they produced condensation, and wherever unstained glass was used a cold green light was reflected from the sea into the rooms. However disguised a skylight might be with stained glass, gilding, or other decoration, it always gave an appearance of the room being lighted from an open court.

It was impossible to over-emphasise the fact that conditions at sea were often very unpleasant, and that passengers were only too glad to return to a cheerful room with comfortable surroundings, and for a time at least forget they were at sea. That remark would explain the desirability of introducing suitable fireplaces wherever possible, even though they only supplemented the heating installation.

The standard material used for painted woodwork on board a modern liner was well-seasoned Honduras mahogany; but Cuban mahogany, teak, oak, satinwood, walnut, black bean, and many other varieties of hardwoods were often used for decorative purposes. Deal and pine were too soft, and should be avoided. All panelling should be screwed invisibly to horizontal and vertical grounds, which had in turn been fixed to the steel framing of the ship, care being taken that everywhere thick felt was inserted in the positions where the panelling was screwed to the backing, so as to avoid the creaking and groaning produced by the straining of the vessel.

Not only must provision be made for suitable casings for water pipes, ventilation ducts, electric wires, cables, and fire appliances, but the intakes and outlets for ventilation must be duly considered in connection with the decorative schemes. It was often advisable to make certain sections of the cornices in hardwood, so that they might be easily unscrewed to enable the engineers to examine the wires and pipes concealed behind them.

The floors, which were for the most part covered with a thick cork carpet over a layer of magnesite composition, were not infrequently

Ceiling of the Dining Saloon on the "Aquitania."
MESSRS. MEWES & DAVIS, Architects.

First Class Dining Saloon on the "Aquitania."
MESSRS. MEWES & DAVIS, Architects.

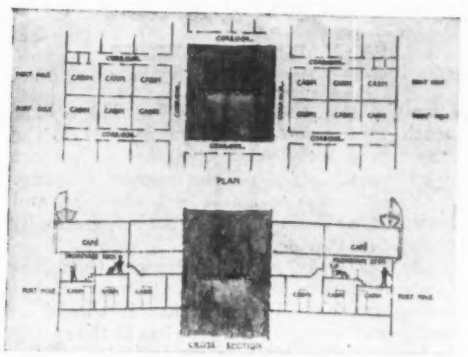
laid with wood parquetry fixed to creosoted fillets. The principal rooms and cabins were partially covered with fine rugs and carpets, and the vestibules, gangways, and stairs by a non-slip rubber tiling or cork carpet.

With regard to general decoration, it was impossible to lay down any golden rule as to what style or styles were the most suitable for a liner. Of recent years several attempts had been made to decorate all the rooms in the vogue of one particular period; but although by no means unsuccessful such treatment tended rather to monotony, and a variety was more generally preferable. Perhaps the best examples of Jacobean, Restoration, Georgian, Regency, Louis XV, Louis XVI, Adam, and Empire, if simply treated were amongst the most suitable. To-day the arrangement of the furniture was in all respects similar to that usual in a modern hotel. While every variety of table, settee, chair and sofa was to be found in the principal rooms, with the exception of the larger fittings every article of furniture was movable, and only screwed down when the weather was exceptionally rough. In the dining saloons the long table had given way to a series of small convertible tables, which were readily extended and enlarged so that passengers could arrange their own parties.

The architect must in every instance consider the special conditions under which the ship he was dealing with was intended to travel. It was obvious that the requirements of a liner steaming between Liverpool and New York were entirely different from those of another bound for a tropical climate. In all such cases a special programme must come into force; but there was no reason why a versatile architect, having once grasped the essential necessities, should not adapt his talents to the requirements of any particular problem which he might be called upon to solve. He would doubtless be required to design or to give his opinion upon such matters as the choice of pictures and tapestries, furniture, carpets, silks and hangings, china, glass, silver, electric fittings, and all the thousand-and-one harmonies of form and colour.

In conclusion, the work of the great ships during the war was briefly touched on.

At this point the lecturer showed a series of lantern slides illustrating the planning and decoration of modern liners. The division of a ship was shown by a longitudinal section through the *Aquitania*, which showed that the lower portion, or hull, was rigid, and the superstructure divided vertically by a number of expansion joints, which relieved the strain which occurred to the upper part when the ship was resting on a wave with its two ends unsupported. Those joints had to be carried right through the superstructure to the hull, and had to be taken into consideration in the decorative scheme. In referring to the funnels of a ship, he expressed the opinion that big developments in ship propulsion would take place in the near future, and that planning would be much facilitated by the use of Diesel engines. A plan was shown of the *Leviathan* (formerly the *Vaterland*), in which by the co-operation of the designer and the architect a suite of rooms was formed with a vista of 300 ft. through the central portion of the vessel. The social hall on the *Berengaria* (illustrated on p. 295) was, he said, perhaps the largest room without internal supports in existence on a ship. The *Berengaria* was formerly the Hamburg-America ship *Imperator*, and the lecturer mentioned that the decoration of all the Hamburg-America liners was designed by his late partner Charles Mèwes (a Frenchman), and the actual work carried out by well-known British and French firms. In reference to the main saloon of the *Lusitania* (illustrated on p. 296), which was decorated by Mr. Henry Miller, he said the dome treatment had been eliminated from most of the newer liners; although very attractive, the dome had the disadvantage of taking up valuable space, as it went through three decks, and it had the further drawback of making the other portion of the room appear low and out of scale. The common practice was now to carry the centre portion through "C" deck only. The chair-backs in



Plan and Section of "C" Deck of the "Aquitania."

the saloon of the *Lusitania* were treated with a decorative panel, so that when the room was crowded with people sitting at the tables only the backs of the chairs were visible. In certain rooms where large wall surfaces and domes were introduced, decorated panels and ceilings were features which must be considered, and a slide was shown of the ceiling of the saloon of the *Aquitania* (illustrated on p. 296). A section through a dining saloon to show how horizontal lines were treated to overcome the difficulties of sheer and camber was shown on the screen; the horizontal lines all radiated to a given point, none of them exactly parallel to either the lower or upper deck. The drawing also showed circular ports masked by double sliding casement windows in order to retain the monumental character which the room demanded. In planning the *Aquitania* it was found possible, owing to its great size, to plan two or three rows of cabins between the space of the main corridor and the skin of the vessel, and a slide was shown (see above) illustrating the method by which direct ventilation and a certain amount of light was given to each of the cabins. The back portion of the promenade deck, which was very wide, was raised a few steps and the outside cabin was lighted and ventilated in the usual way by a port, the second cabin by a kind of stall-board, and the third cabin in the manner indicated in the section.

Discussion.

A vote of thanks to the lecturer was proposed by SIR WESTCOTT S. ABELL, K.B.E. (Chief Ship Surveyor of Lloyd's Register), who said he thought the greatest problem before the architect was the design of the features of the dining saloon, because of the restrictions in height; such a saloon might be 100 ft. square and only 10 ft. high. An important point was that at sea weight was an important factor, and the architect should get effect, if possible, with no extra weight at all. Such heavy materials as tiles should never be used at sea; when they were used it was generally high up in the ship, which made it top-heavy and inclined to roll.

MR. J. ANNAN BRYCE, MR. H. W. WILLS, MR. E. P. WARREN, and PROFESSOR S. D. ADSHEAD took part in the subsequent discussion, in which the view was expressed that architecture on board ship should express the spirit of the sea and the ship, rather than follow the lines of hotels on land.

A hearty vote of thanks was accorded the LECTURER, who, in reply to the points raised in the discussion, said when he first took up ship work some fifteen years ago the first thing he asked the owners was why they did not make the interior of the ship look like a ship and reminiscent of the sea. The answer was that people who used ships nowadays did so chiefly for business reasons, and were mostly seasick persons who wanted to forget the fact that they were at sea. The people who travelled on the ships were the people accustomed to living in hotels, and not sailors. The transatlantic liner was not merely a ship, but a floating town; people who liked being on ships were, however, distinctly in the minority. He agreed that the bathrooms on most ships were bad, and thought the sanitary engineer should join the architect in designing bathrooms and sanitary conveniences. The plumbing on many ships was a disgrace.

NOTES FROM THE MINUTES.

The following notes are from the minutes of the meeting of the R.I.B.A. Council held on February 20:—

MANCHESTER UNIVERSITY SCHOOL OF ARCHITECTURE.—The five years' courses of the School of Architecture of Manchester University have been recognised as exempting from the Final Examination on the usual conditions.

PRIZES AND STUDENTSHIPS.—The Council has adopted the following recommendations of the Board of Architectural Education:—(1) That no work submitted shall have been prepared during the competitors' day-school hours; (2) That students shall receive no criticism or assistance from their school or atelier instructors in making their designs; (3) That a student successful in a travelling studentship competition shall be given personal advice by the jury of that competition before travelling, and shall be recommended to wait until he has reached the age of 23 years before taking up his travelling studentship; (4) That a student successful in a travelling studentship competition shall be given two-thirds of the money prize before beginning his travels, the remaining one-third to be handed to him on the satisfactory completion of those travels; (5) That the student successful in the Pugin Travelling Studentship Competition be required to make a tour of six weeks' duration instead of eight weeks; (6) That the student successful in the Henry Jarvis Travelling Studentship Competition be permitted to spend his second year in some country other than Italy or Greece, if he so desires, subject to the approval of the Faculty of Architecture of the British School at Rome.

THE ACADEMIE ROYALE DE BELGIQUE.—The following members have been appointed to represent the R.I.B.A. at the celebration of the 150th anniversary of the Academie Royale de Belgique, May 24, 1922:—The President of the Royal Institute, Sir Reginald Blomfield, R.A., Mr. John W. Simpson, and Sir John J. Burnet, A.R.A.

THE FELLOWSHIP.—Under the provisions of By-Law 12, the following architects were elected as Fellows by the Council:—The Rt. Hon. Earl Ferrers and Mr. F. C. Eden.

EXHIBITION NOTES.

ARCHITECTS' WORKING DRAWINGS.

IT is to be hoped we may from time to time have such interesting exhibitions of architects' working drawings as those now on view at the Galleries of the Royal Institute of British Architects. There are over sixty sheets and frames of the *Morning Post* offices, by Messrs. Mèwes & Davis; over thirty of the new L.C.C. County Hall, by Mr. Ralph Knott; and a dozen of the British Museum extension, by Sir John Burnet. The latter are of especial interest in the methods adopted, for the isometrical view must have been of great value during the progress of the work as showing the arrangement of constructive and decorative features. The details, moreover, indicate a refinement of handling which is seldom seen in work in this country. None of the three sets of drawings exhibited can be said to show evidence of attempt at effect or super-excellence of finish, but they all evidence the care and thoroughness with which the works have been detailed. Not the least interesting of Sir John Burnet's drawings is the one-inch scale detail of the columns, showing how the entasis was settled. The diminution of the column begins at one-third of the height from the base-moulding. The height of the column, including capital and base, is 40 ft. 3 ins.; and the lower diameter is 4 ft. 7 ins. As a comparison it may be noted here that the columns at the Aldwych entrance of the new Bush building are 5 ft 6 ins. in diameter.

HISTORICAL BUILDING CONSTRUCTION.—V: CARPENTRY.

BY MARTIN S. BRIGGS.

IN the architecture of Ancient Egypt carpentry played a minor *rôle*, owing to the scarcity of timber. At one time this shortage was less serious than it is now, as afforestation was practised, but, of the available species of timber, date-palms furnish wood which is fibrous, difficult to handle, and liable to failure under stress; sycamore is neither very strong nor supple; and of acacia and tamarisk it can only be said that they are the least unsuitable of native trees for building purposes. Timber was, however, largely used before stone became the general building material, and the architect or master of the works was originally called "the royal axe-man." The tools employed had bronze blades up to the sixth century B.C., when iron came into general use. For felling trees a hatchet was used, for conversion into planks a saw, the trunk being fixed vertically in the ground and the saw-cut kept open with a counterweight (Fig. 98), showing that even the Egyptians economised labour on occasion!

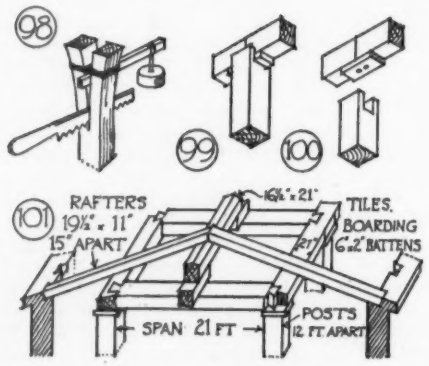
Among "modern" joints used in these early days were the dovetail, the dovetailed tenon, and the tenon secured in a mortise by a wooden peg or pin. Wall-plates were halved over the supporting posts and pinned (Figs. 99 and 100).

There is evidence that the Egyptians understood the principle of triangulation in timber work, though this principle does not appear again till Roman times. Planking, 2 ins. or 2½ ins. thick, on heavy beams 10 ins. by 7 ins. or more, was employed in forming floors and flat roofs. Enormous gates were used in the pylons at the entrance to great temples such as Karnak; and, although it is a difficult question, there is no doubt that timber forms largely influenced later Egyptian architecture in stone.

In Assyria palm-trunks were largely used, but beams of cedar were imported at great expense for the ceilings of palaces. In these, as in the later Persian and Sassanian buildings, roofs and ceilings only differed from the primitive construction of palm-trunks in being of better materials. Wooden prototypes undoubtedly had an effect on the development of Persian architecture.

In pre-Hellenic Greece carpentry was practised, for Homer refers to the axe, the auger, and the toothed saw; but it was largely restricted to shipbuilding till the discovery of iron made its use more possible. Most of our knowledge of this period is due to the rock-cut tombs of Lycia which reproduce timber-forms in stone. The feature of Lycian carpentry was the short lengths of timber employed, for the trees that grow on the steep Lycian slopes have gnarled boles and twisted trunks. Wooden clamps and cotter-pins were freely used, and the result is very like English or French "half-timber" construction.

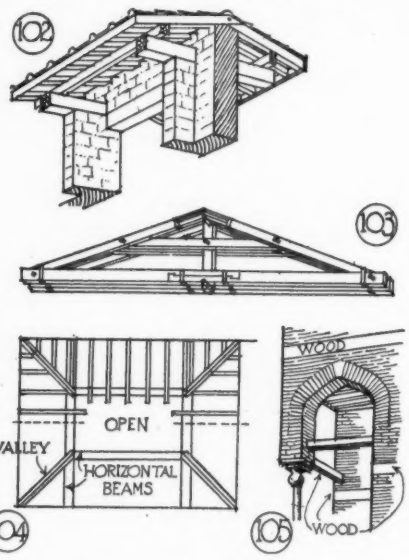
Greek carpentry is only known to us by descriptions. Fig. 101 shows Choisy's restoration of the fourth-century roof of the Arsenal at the Piræus, a method similar to that employed by the Etruscans and Phœnicians. It will be



noticed that this is a very primitive form of trabeated construction, perhaps derived from masonry prototypes, certainly followed in stone in later years. The surface of the roof was tiled. In some cases, there was a boarded ceiling beneath. Terra-cotta facings were used on the sixth-century temples at Syracuse to protect the ends and sides of the timber framing. At Olympia the original entablature and columns of the Heræon were of timber, gradually replaced by marble.

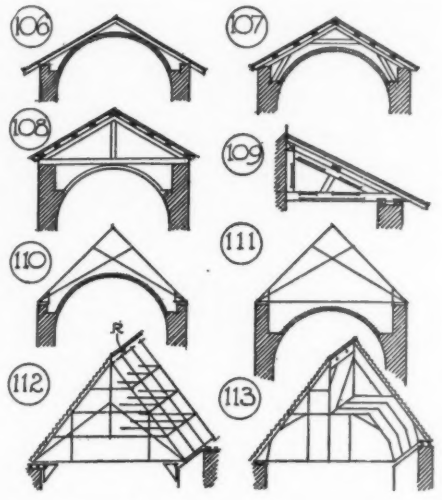
Vitruvius (II, ix) gives his views on the felling and use of timber, according to Roman practice in his own day. He says that it should be felled in winter before the sap rises in the spring. The best building timbers are oak, elm, poplar, cypress, and fir; but "oak has not the efficacy of fir nor cypress that of elm." Fir is light, rigid, straight in grain, inflammable, and decays easily. Oak is also liable to decay. Alder is good for piles, and is used for that purpose under all the buildings at Ravenna. Cypress and pine are very durable. Cedar and juniper are also good timbers, the former often used for coffered ceilings. Cedar is obtained from Crete, Africa, and Syria. Larch is fireproof. He adds that the best fir in Italy is obtained from southern rather than northern slopes, being more free from sap. In many respects his statements are at variance with modern ideas, particularly in regard to the alleged defects of oak.

He mentions the parts of a roof, but documentary evidence on practical details is not very clear, and no original Roman carpentry remains



to us. Choisy illustrates several conjectural Roman roofs, and Figs. 102, 103, and 104 are based on his drawings. Fig. 102 represents a simple span-roof over a shed at Pozzuoli, with no joints whatever except perhaps the halving of the rafters at their intersection. Fig. 103 is from Carlo Fontana's drawing of the double trusses used at Old St. Peter's as built in the time of Constantine. This shows iron straps, pegs, or pins at all joints, a king-post common to the two trusses, and a scarfed tie-beam. It is in all respects a great advance on the Greek roof illustrated in Fig. 101. It was only by using these double trusses that the Romans contrived to roof such wide spans as at the Basilica of Trajan (75 ft.) or at the Basilica at Fano (60 ft.). Fig. 104 represents the roof described by Vitruvius (VI, v) for the four sides of an open court in a Tuscan house. Messrs. Anderson and Spiers illustrate a wonderful Etruscan rock-tomb at Corneto, imitating in stone the carpentry construction of a heavy hipped roof, a remarkable type to find at so early a date.

In introducing into their northern colonies these low-pitched roofs with deep eaves, so eminently suitable for the climate of Italy, the Romans showed a lack of the practical sense that generally characterised their building. But they were practical in the precautions they took to isolate possible outbreaks of fire by erecting solid stone diaphragms between various portions of the roofs of large buildings. They also took pains to avoid dry rot by aerating the ends of timber beams and trusses. Wooden roofs were used chiefly by the Romans for their early



temples and in the basilicas of the late period. The great Thermæ of the middle period were roofed in concrete, in which case the Romans appear to have considered the addition of an inflammable timber-roof as illogical. The use of metal in Roman roof-construction will be touched on in Article VII.

Little is known of Byzantine roof-construction in timber, the domical form being far more usual. A primitive span-roof of low pitch was used for basilican churches, following Roman tradition. The Dome of the Rock at Jerusalem, a building almost Byzantine in character though a Mohammadan work, had a remarkable double dome of timber.

Timber tie-beams were largely used to resist earthquake shocks, and to add rigidity to the structure during the first settlement of the vaults on their slender supports. Most Byzantine arcades are strengthened by tie-beams of timber or (*e.g.*, at Santa Sophia) of iron. Usually these ties were placed at the level of the top of the dosseret, but sometimes a second tier was used near the top of the arch. If intended to be permanent, and if visible, they were often carved. Ties were also used for barrel-vaults, groined-vaults, and domes, disposed in each case according to requirements.

The Saracens in Egypt were hampered by the scarcity of timber already noted as prevailing in that country, but it is known that afforestation was practised in the eleventh century. As early as the seventh century, timber for building was imported to Mecca from India and from Cyprus to Jerusalem. Oak and pine were imported to Cairo from Turkey in later years, as well as many other woods used for the elaborate joinery of the fourteenth and fifteenth centuries (see Article VI). For dwelling-houses and inferior buildings, palm-trunks were used in the construction of flat roofs, as from the earliest times to the present day. The original roof of the Great Mosque at Damascus followed the ordinary Roman basilican type. The mosque of Ibn Tulun at Cairo (ninth century), already mentioned, still retains its flat roof of earth, lime, and slabs, resting on sycamore planks supported by heavy beams carried on corbels. The underside of the beams and the space between was lined with panelling. In the dry climate of Egypt timber lasts remarkably well. Many of the later madrasahs, or collegiate mosques, had flat timber roofs.

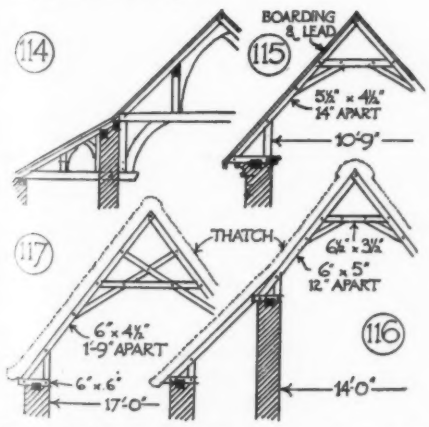
Tie-beams were very largely used in the arcades of the mosques, in conjunction with carved wooden plates, or dosserets, just above the capitals. Fig. 105 shows how tie-beams were used to strengthen brick houses of the Turkish period in the Delta towns.

In Romanesque architecture, in certain countries only, wooden tie-beams were similarly used, especially in walls carrying barrel-vaults where they were embedded at the springing-level. Timber was very widely employed for the whole construction of dwelling-houses, which, by their nature, have long since perished, though at Greensted in Essex there still stands a small church built after the fashion of a Swiss châlet, of tree-trunks resting on a wooden sill, which is commonly believed to date back to Saxon times.

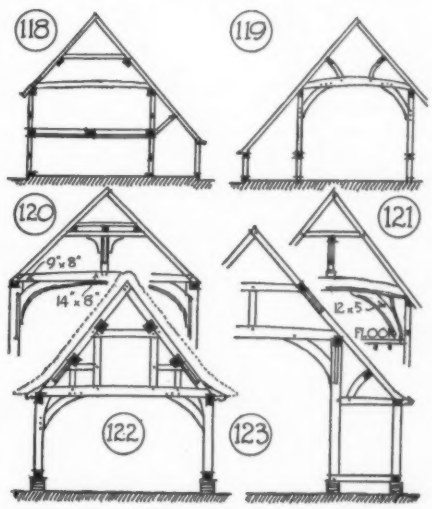
Romanesque architects often used arches where we use roof-trusses, walls being carried up from the arches to the underside of the roof-timbers. (In the same way the purlins of small modern houses are supported on internal walls or partitions, not on trusses.) But very few examples remain. In the rainy climate of Northern Europe it was necessary to protect the upper surface of rubble vaulting, whereas Roman concrete vaults had been left exposed to the weather. At first this was done by means of rafters supported at their centres on the back of the vaulting (Fig. 106). However, this method had obvious disadvantages, so it was replaced by one of the two systems shown in Figs. 107 and 108. Hips were never used as they involved more difficulties than simple gables. The flat Roman pitch was gradually increased to meet climatic conditions, but was never more than 45 deg.

Carpentry of the Gothic period may be roughly classified as roofs and half-timber work, but these were sometimes so closely allied as to form one structure (*e.g.*, in the old English and French barns). The Gothic roof was invariably of steep pitch, never less than 45 deg. (except in late Perpendicular work) and usually much more, sometimes more than 60 deg. The roofs over the aisles of churches were of flatter pitch than this in many cases. The timbers of roofs over vaults never rested on the vaulting. From the notes of Villard de Honnecourt it appears that in France the piers of the main vaults were built up to the springing, then tied with temporary wooden ties, the timber roofs were next erected and covered in, and lastly the vault ng itself was constructed.

The development of the roof over a stone vault is best explained by Figs. 110, 111, 112, and 113, which are based on Choisy's diagrams. Fig. 110 shows the earliest form, with diagonal braces and no tie-beam. The next type included a tie-beam just above the crown of the vault, the diagonal braces being retained. This type was in use up to the middle of the fifteenth century. Fig. 112 shows another form, the trusses over the vault of the choir at Nôtre Dame at Paris (*c.* 1180). Here there is no ridge, but in the roof over the nave (*c.* 1220) a ridge-piece is added, as dotted and marked "R." In the much later roof of St. Ouen at Rouen (Fig. 113) the same tradition is followed, but the diagonal members are omitted, and great importance is assigned to the trussed ridge-piece. Aisle-roofs were generally of simple character. Fig. 109 shows an early French example from Choisy.



These timber roofs over stone vaults were of very similar character in France and England, but it was in England that the Gothic open-timber roof attained its greatest beauty. We may accept Brandon's classification: (i) roofs with tie-beams; (ii) roofs with trussed rafters; (iii) roofs framed with hammer-beams and braces; (iv) roofs with braces, or with collars and braces. Of these only the simpler forms can be described and illustrated here, the wonderful hammer-beam roofs and other elaborate types being far beyond the scope of this study. Generally speaking, it may be said that, right into the seventeenth century, hammer-beam roofs were characteristic of the Eastern Counties, roofs with trussed rafters of Kent and Sussex, and wagon-shaped roofs of the West of England. Fig. 114 shows an ingenious adaptation of the tie-beam type, from North Walsham Church in Norfolk. Here intermediate trusses were used. The tie-beam roof in different forms persisted through all periods from Norman to Perpendicular. Figs. 115, 116, and 117 illustrate varieties of the trussed-rafter type, of which Ely Cathedral furnishes the most important historical instance. The first shows the roof over the south porch of Heckington Church, Lincolnshire, covered with lead on boarding. A carved wall-plate is used, and the rafters are fixed 14 in. apart. Fig. 117 illustrates the roof over the nave and aisles at Long Stanton Church, Cambridgeshire. Here thatch is employed for covering, and the rafters are 12 in. apart. Fig. 116 shows the roof over the nave of Lympenhoe Church, Norfolk, also thatched, with rafters 1 ft. 9 in. apart. The solid character of the rafters in

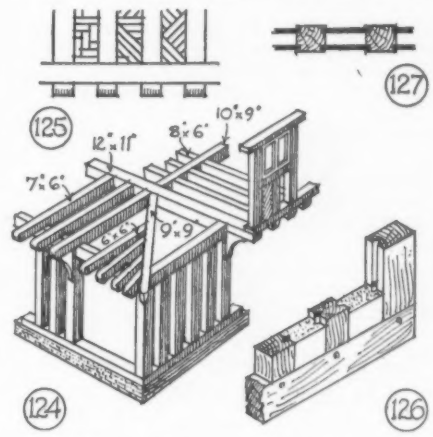


all these examples will be noted. This type of roof was frequently ceiled with boarding ornamental ribs and bosses being used.

The next illustration shows the commonest type of roof in the cottages of Surrey, with a so-called "skilling" or lean-to shed at the side. This might date from almost any period, but such examples as the Guest House at Lingfield (Fig. 120) and that from a house at Godstone (Fig. 121) are of the definitely mediæval character that lasted into the seventeenth century in places where tradition was not interfered with. In the old English barns the roof forms an organic whole with the framing of the low "walls," and the posts which divide the whole structure into nave and aisles. Figs. 119, 122, and 123 show three roofs of barns at Wipley Farm in Surrey, Stone in Bucks, and Harmondsworth in Middlesex respectively. It is remarkable that the first named, in spite of its Gothic character, has hipped gables.

Half-timber work, as it is commonly called, is found in all the countries of Northern Europe, where timber is common. In France, where oak was generally used for carpentry, half-timber work seldom displays the curved lines and the braces beloved of English craftsmen (especially in the West Midlands), probably because English oak yields curved timber more readily than the tall straight trees of the French forests.

The half-timber work of Kent, Surrey, and Sussex dates for the most part from the sixteenth and seventeenth centuries, and is of a very simple character as a rule. Oak is generally used. Fig. 124, based on a sketch by Mr. Curtis Green, shows the principle of this form of construction.* Heavy story-posts, about 8 in. or 9 in. square, were let into a sill-piece resting on a low brick or stone foundation-wall. Those



at the angles were larger, and were formed of the butt of a tree placed root upwards, with the top part curving diagonally outwards to carry the angle posts of the upper story. Across these were laid beams projecting about 18 in. in front of the framing below, those at the angles being laid diagonally and showing in the rooms inside. Into these beams others were connected longitudinally, and to the latter were tenoned floor-joists, projecting the same distance as the main beams. In the sixteenth century the ends of the joists were covered with a large and deeply moulded fascia, but in later examples this was discarded, and the ends of the joists merely rounded off. The framing of the upper story followed that of the ground floor, the plate and the sill being laid on the ends of the overhanging timbers. The house in its first stage was merely a timber skeleton, which, until the framing was well advanced, had to be propped and stayed from outside. In many houses the slots to receive the stays are still visible in the larger timbers on the ground floor. The spaces between the main posts were filled in with uprights 8 in. or 9 in. wide, and about the same distance apart. Only in later work were they spaced more widely, and curved timbers introduced. The space between was "then filled in with wattles or laths, and chopped straw and clay, and the surface plastered flush with the woodwork." Sometimes the whole surface, even over the timber framing, was plastered over in later years. For filling the spaces between the timbers, brickwork was often used (Fig. 125), and in one notable instance, at Great Chalfield Manor House in Wiltshire (Fig. 126), stone was employed for the same purpose. Fig. 127 shows plaster filling on laths.

A few houses of these southern counties (*e.g.*, Middle House, Mayfield, Sussex, *c.* 1575, and Great Tangley Manor in Surrey) follow the half-timber style of Lancashire, Cheshire, Shropshire, and Worcestershire, where elaborate panel work with cusping was formed by the used of curved and even carved members between the rectangular lines of the framing. During the sixteenth and seventeenth centuries the English forests were thinned, and in later, work half-timbering tended to be confined to the fronts and backs of houses in Kent, Surrey, and Sussex. The Fire of London marked the close of the period when timber-framed houses were traditional and popular, though for long afterwards they were built in certain districts, plastered externally or covered with weather-boarding.

[The sketches accompanying this article are specially drawn by myself, but Figs. 98 to 104 and 106 to 113 are based on diagrams by Choisy; Figs. 114 to 117 on Brandon's "Open Timber Roofs"; Figs. 118 to 121, and 124, on Curtis Green's "Old Cottages in Surrey"; and Figs. 125 and 126 on Garner and Stratton's "Tudor Architecture."]

*"The following description is taken from Mr. Guy Dawber's admirable book on "The Old Cottages of Kent and Sussex."

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ILLUSTRATIONS.

New Bank Premises.

The premises for the Guardian Assurance Co. & Lloyd's Bank are situated at the end of King William-street, E.C.1, facing London Bridge.

The architects for the bank in Euston-road are Messrs. Campbell Jones, Son & Smithers.

House at Norwich.

This house was built near North Walsham in 1914-15 for Mr. J. R. Brooks, at a cost of £5,700. The illustrations show the entrance, which is approached by a long drive through the woods, and the garden front. The materials used are 2 in. local bricks in varying colours and hand-made sand-faced tiles. The library is panelled in oak. The cottages in connection with the house were illustrated in our issue for November 18 last. The general contractors were Messrs. T. Gill & Son, Norwich; the ironmongery and fittings were supplied by the Dryad Works, Leicester; the sanitary fittings by Messrs. Jennings; the hot-water and heating installation by Messrs. Barnes & Pye, Norwich; and the plaster enrichments by Messrs. W. G. Crotch & Son, Norwich. Mr. Stanley J. Wearing, A.R.I.B.A., of Norwich, is the architect.

Rome Scholarship in Architecture.

In our last issue we illustrated five of the nine designs (those of Messrs. H. E. Hamilton Higham, George Checkley, Stephen Welsh and Wilfrid B. Edwards, of Liverpool University School of Architecture, and Mr. Reginald A. Cordingley, of Manchester University School of Architecture), selected in the preliminary competition for the Rome Scholarship in Architecture, 1922. This week we illustrate the designs of the other four selected to take part in the final competition, namely, Messrs. Eric Ross Arthur, Edward W. Martin, Wesley Dougill, and Edwin Williams, all of the Liverpool University School of Architecture.

Mr. E. R. Arthur (N.Z.) is a fifth-year degree student of the Liverpool School; holder of Kitchener Scholarship; Holt Travelling Scholar in Architecture, 1921; winner of second Lever Prize, 1919; finalist in Rome Scholarship Competition for third time. (Placed third, 1920.)

Mr. G. Checkley is a fifth-year degree student of the Liverpool School; holder of New Zealand Expeditionary Force Scholarship; Holt Travelling Scholar in Architecture, 1920; winner of first Lever Prize, 1920.

Mr. W. Dougill is a fifth-year degree student of the Liverpool School; winner of second Lever Prize, 1920; finalist in Rome Scholarship Competition for second time (placed second, 1920); student at British School at Rome, winter, 1920–21.

Mr. W. B. Edwards is a fourth-year degree student at the Liverpool School; during summer vacation, 1921, in the New York office of Mr. Aymar Embury.

Mr. H. E. H. Higham is a fourth-year degree student of the Liverpool School; holder of Elmo's Scholarship in Architecture.

Mr. E. W. Martin, B.Sc., is a graduate of the University of Delaware, U.S.A., and a fifth-year degree student at the Liverpool School.

Mr. S. Welsh is a fifth-year degree student at the Liverpool School.

Mr. E. Williams is a fourth-year degree student at the Liverpool School; winner of first Lever Prize; finalist in Victory Scholarship Competition, 1921.

A new feature in connection with the final competition will be a thirty-six hours' *en loge* at the R.I.B.A., the competitors having their food sent in to them; and subsequently a period of ten weeks will be allowed for the student to develop the tracing of his *en loge* study. The committee who are setting the problem and will act as jury will be as in the preliminary competition, namely, Sir Aston Webb, P.R.A., Sir J. J. Burnet, A.R.A., and Mr. Gilbert Scott, A.R.A.

THE DESIGN AND INDUSTRIES ASSOCIATION.

THE "Deliverance from Drudgery" exhibition now open to the public at No. 6, Queen-square, W.C., contains much that should be helpful to the housekeeper, and has special value in these days of reduced incomes. The facilities which are offered in labour-saving devices and sensible methods for the fitting-up of our houses should attract many visitors to the exhibition of this enterprising Association. The ideal of the Design and Industries Association is "fitness for purpose"—the things of use well adapted to their purpose. It claims to keep us in touch with good work, and its sole interest in the exhibition is to forward it. The exhibition shows various articles of domestic use, displaying improved features, and it tells us where we can get them. The D.I.A. works with the manufacturer, and encourages the supply of a better class of domestic utensil; a porridge-stick, cut from the hedge (which has been in use for eight years) and which, so we are told, gets into the corners of the pan, and a porridge-kettle from which the boiling water may be poured without taking the porridge off, are examples of this fitness for purpose which the Association upholds. A simply-designed teapot, the "Nevvadrip," otherwise successful, should have a catch under the cover to prevent it falling off when tipped. Scrubbing brushes with long handles to prevent the necessity for kneeling should prove a much needed alleviation to the scrubber, and a variety of other useful inventions, such as improved dustpans, door-handles, &c., make up a show as various as it is educational. The ladies, however, must look to their laurels—out of some fifty or so inventions for lightening and facilitating labour in the home, there is not one that was not designed by a man. At the same time, to take, for instance, the bowls, with their capacities marked on them, a housekeeper to whom we communicated this advantage replied that any one who has cooked, if only for a short time, would know the proportions without these marks.

The propaganda of the Design and Industries Association is largely directed to promoting an understanding between manufacturers, retailers, and the public, and it has laboured for some years past to persuade manufacturers and retailers to place things which are both good and cheap before the buying public. It is in itself a real step forward to detach from furniture the useless trappings and ornament which have so obstructed its fitness and made it ugly to look at. One recalls the over-dressed side-boards and overmantels, with their endless mirrors and shelves of the most irritating and ill-designed character usurping the place of convenience, repose, and beauty. There is justification for the pride of the "house-proud" lady when it arises out of the serviceableness, unity, and fitness her house includes; not striving after cheap imitation of those richer than herself, "playing at precedence with her next door neighbour," but making her home the likeness of the order, good sense, and comeliness which should rule over it.

At the recent conference on furniture in connection with the British Institute of Industrial Art, held at the Victoria and Albert Museum, a speaker urged the need for promoting the making of suitable furniture for the millionaire. This solicitation for the millionaire leaves us with a regret lest it should be impossible to make it expensive enough to suit his requirements, and reminds us of the regret of the gourmet millionaire that the most expensive helping of any dainty he could order only cost a few shillings! This is not the kind of furniture or outlook which the D.I.A. has in view, and its objects gain much from their definiteness and the limitations within which they are working, and from the absence of any vagueness. We think the Institute might gain if the scope of its own work were as clearly defined, and were freer from the dismal theories that have so long hung round official "encouragement of art." Official support is too often found to emerge in a complacency and assurance as to its objects which are not in any way warranted by the facts. Its support tends to grow round the more docile and accommodating craftsmanship of the average artist, rather than that of the finest distinction; putting, in fact, this low average above such work, so darkening knowledge and making the path of true excellence harder than before. We are on very insecure ground in setting out to conserve high standards of design and craftsmanship unless we know ourselves what these include. The D.I.A. has done an excellent thing in leaving out "art," or, rather, in letting it come of itself. It is gravely to be doubted whether art can be artificially fostered when it has ceased to grow out of the life and beliefs of the race, and, when it does, it does not need encouragement; whether in fact, when the State steps in the art does not step out. A sober consideration of the facts would suggest that this artificial fostering of art by the State encourages everything but the best. There is nothing comparable with this more ambitious and debatable aim in the work of the Design and Industries Association. To make a dustbin to hold the dust properly, to give us a long-handled scrubbing brush and so to prevent "housemaid's knee"—these, and a hundred other things which accommodate and release life from drudgery, increase its facilities and promote its comeliness; this the D.I.A. aims to do for us, and in doing so it fills a real place and serves the best interests of the nation.

MEETINGS.

FRIDAY, *February* 24.

College of Estate Management.—Mr. M. C. Duchesne on "British Timber." At 35, Lincoln's Inn-fields, W.C.2. 5.30 p.m.

SATURDAY, *February* 25.

Architectural Association.—Visit to St. Swithin's Church, Hither-green. 3 p.m.

MONDAY, *February* 27.

Architectural Association.—Exhibition of paintings and decoration by Mr. Walpole Champneys; and water-colours by Mr. C. J. Kennedy.

WEDNESDAY, *March* 1.

Royal Archæological Institute.—Messrs. Forsyth and Johnston on "Ickenham Church: Recent Changes." At Burlington House. 4.30 p.m.

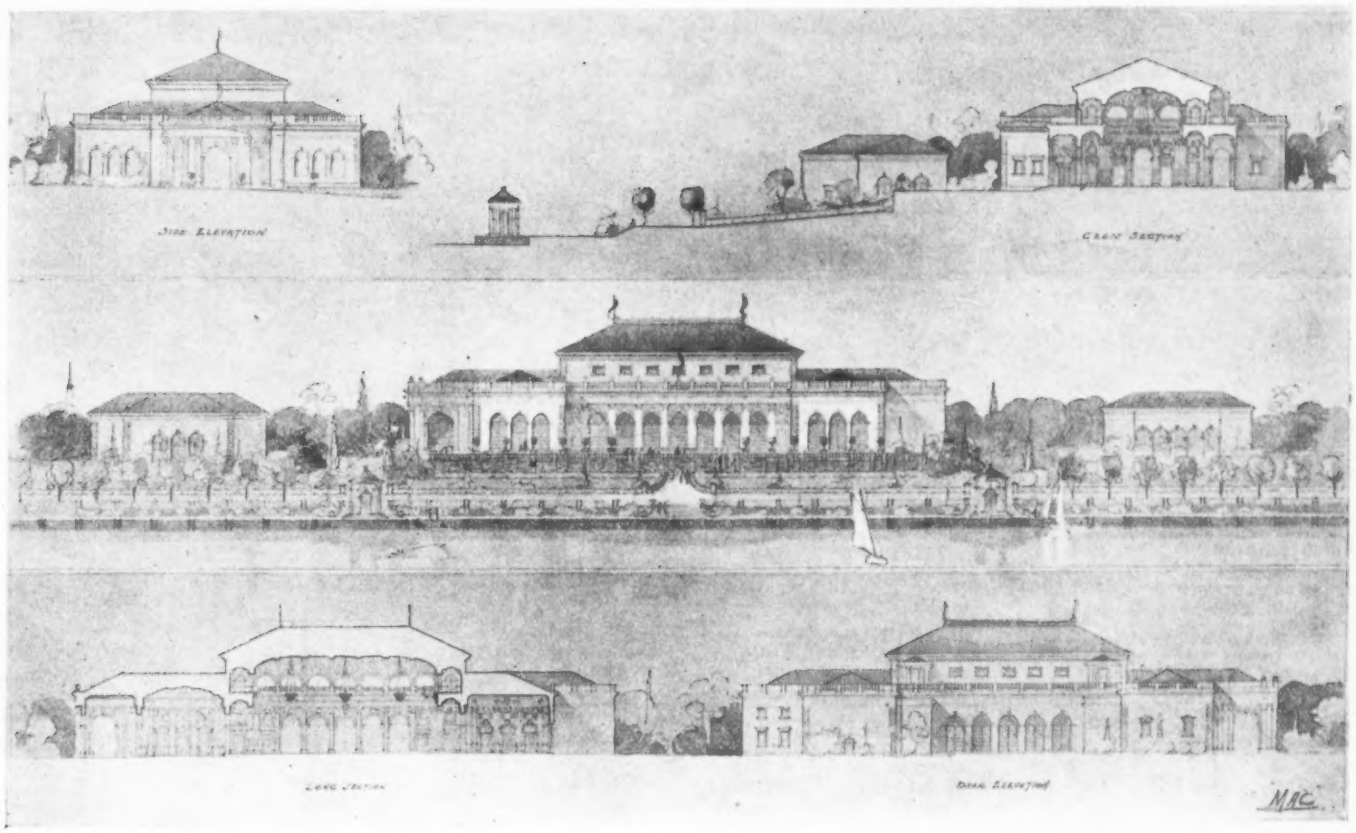
University College Lectures.—Mr. Martin S. Briggs on "Historical Building Construction: Ironwork." At 6.15 p.m.

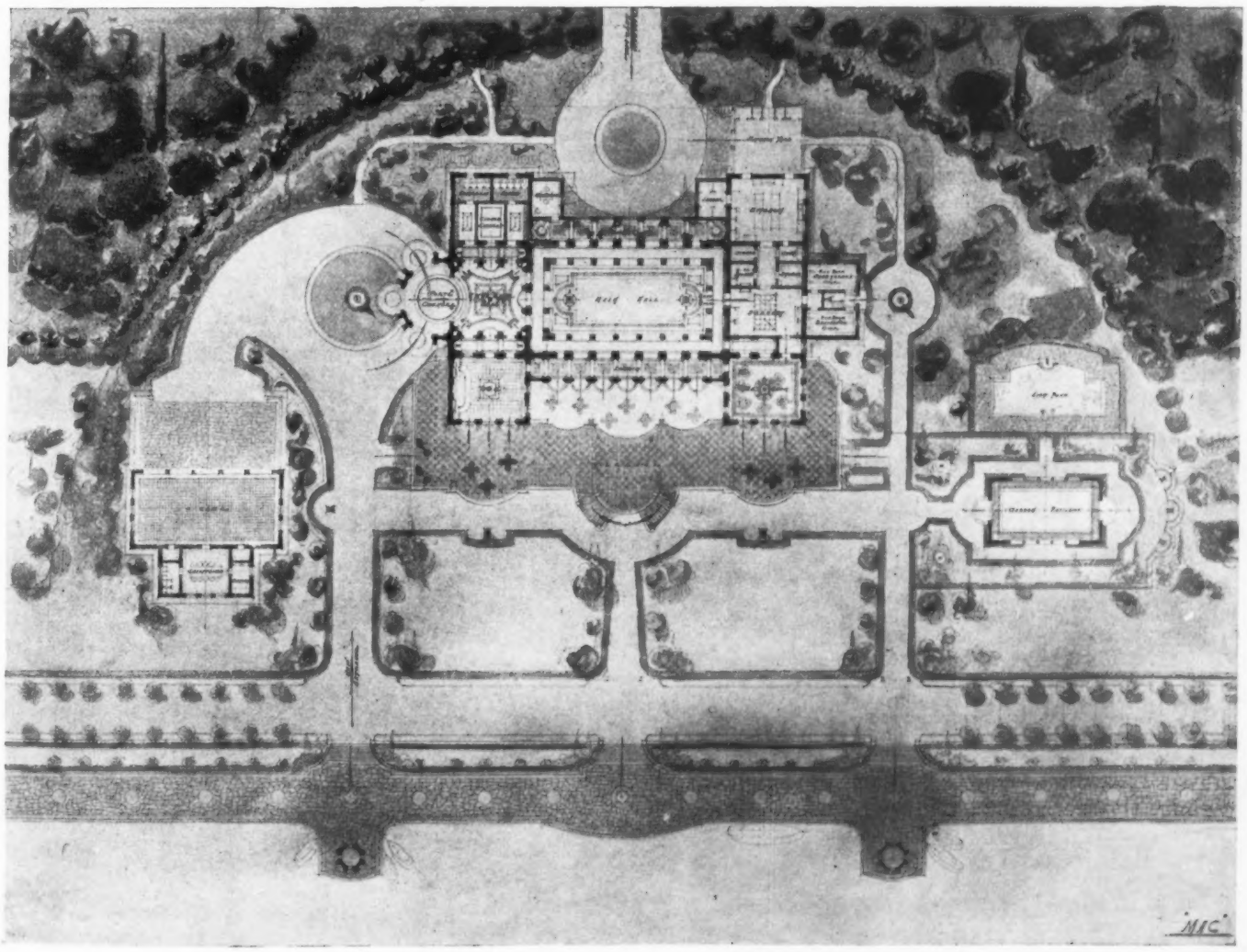
L.C.C. Central School of Arts and Crafts.—Sir Banister Fletcher on "English Mediæval Architecture: Tower of London." At 6 p.m.

Edinburgh Architectural Association.—Mr. W. S. Menzies on "Practical Masonry" At 8 p.m.

THURSDAY, *March* 2.

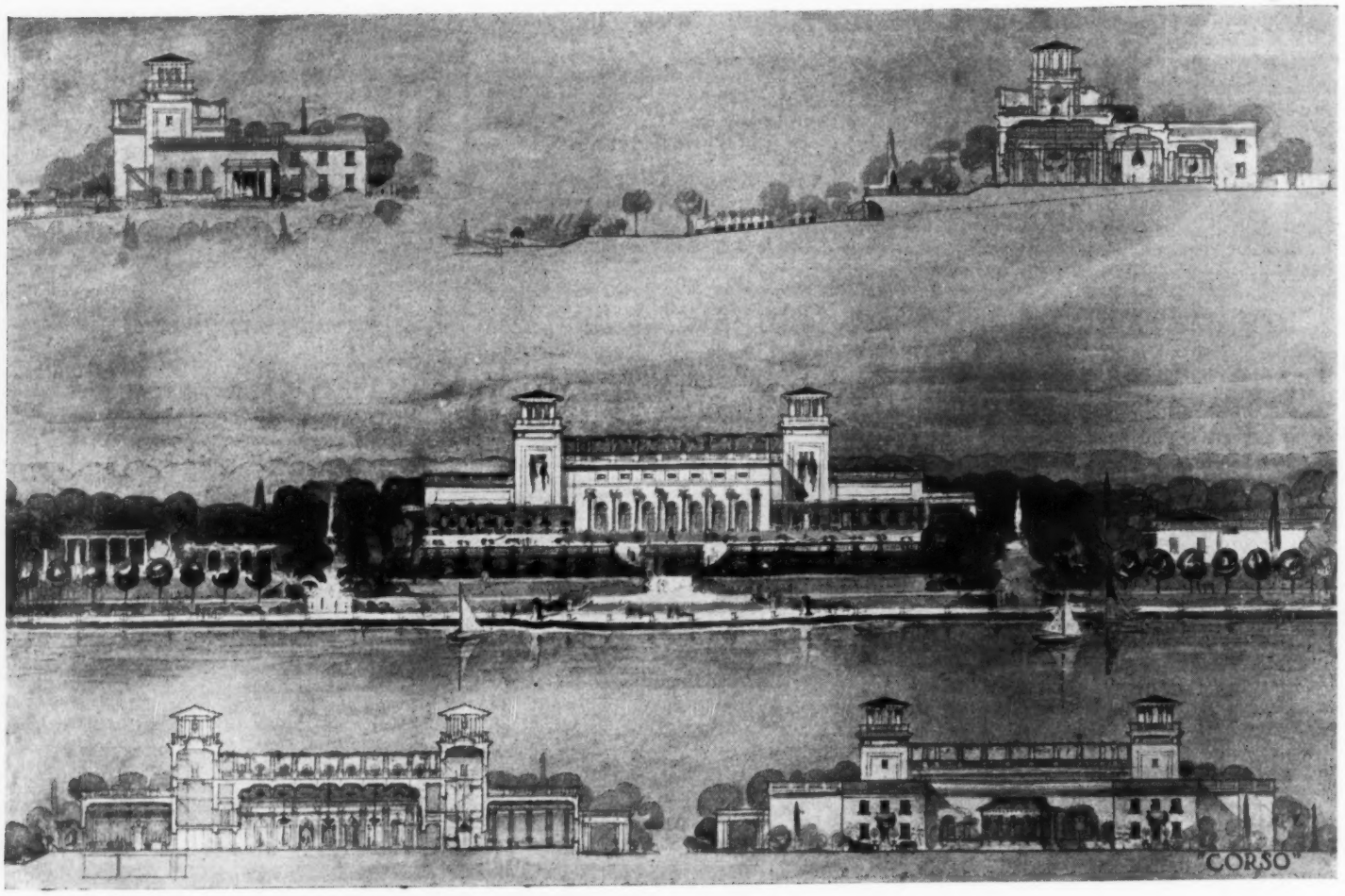
Architects' and Surveyors' Assistants' Professional Union.—Mr. W. C. Keay on "Unemployment and the Professional Assistants." At Caxton Hall, S.W.1. 6.30 p.m.

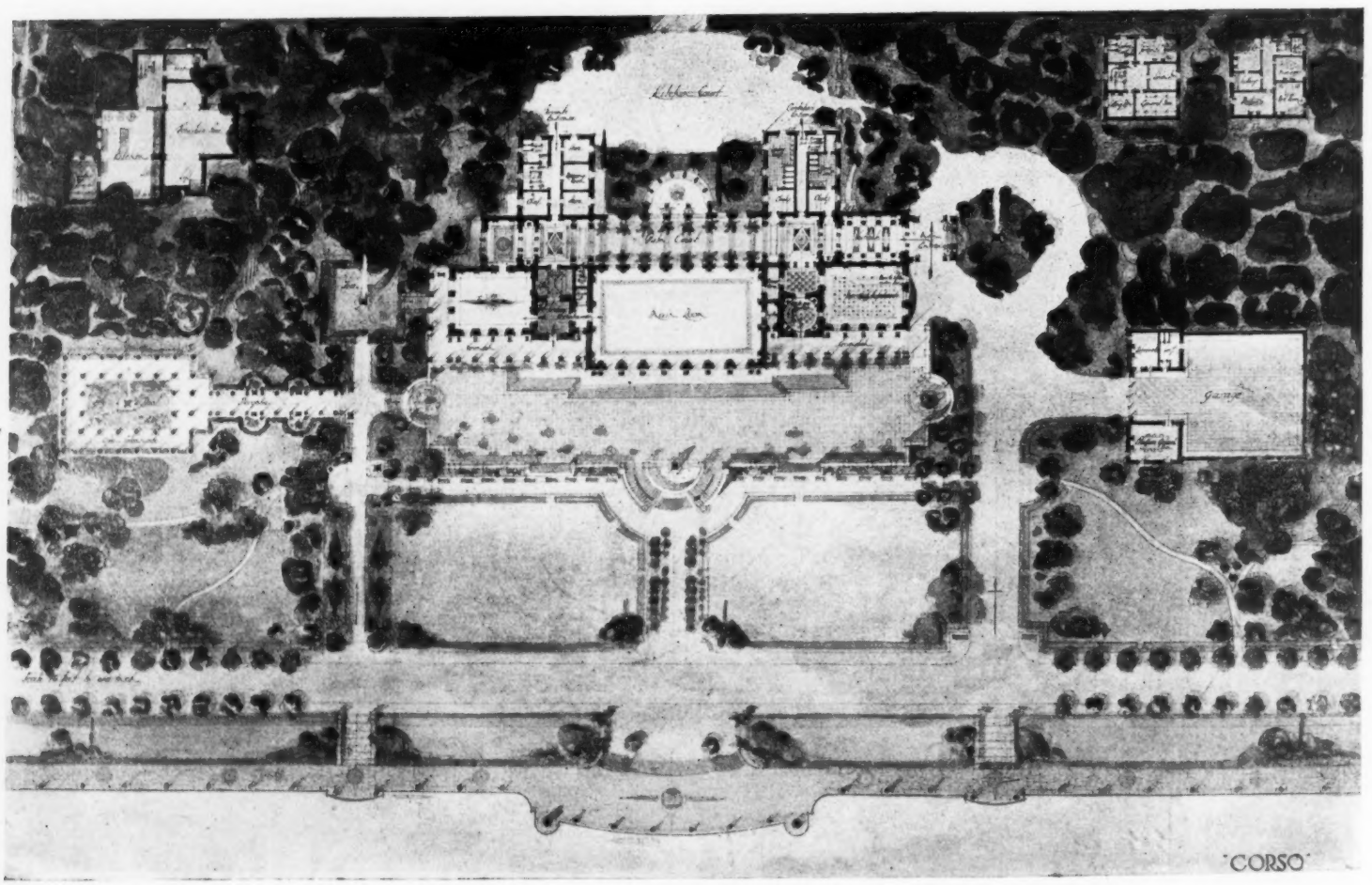




Rome Scholarship in Architecture: Preliminary Competition.

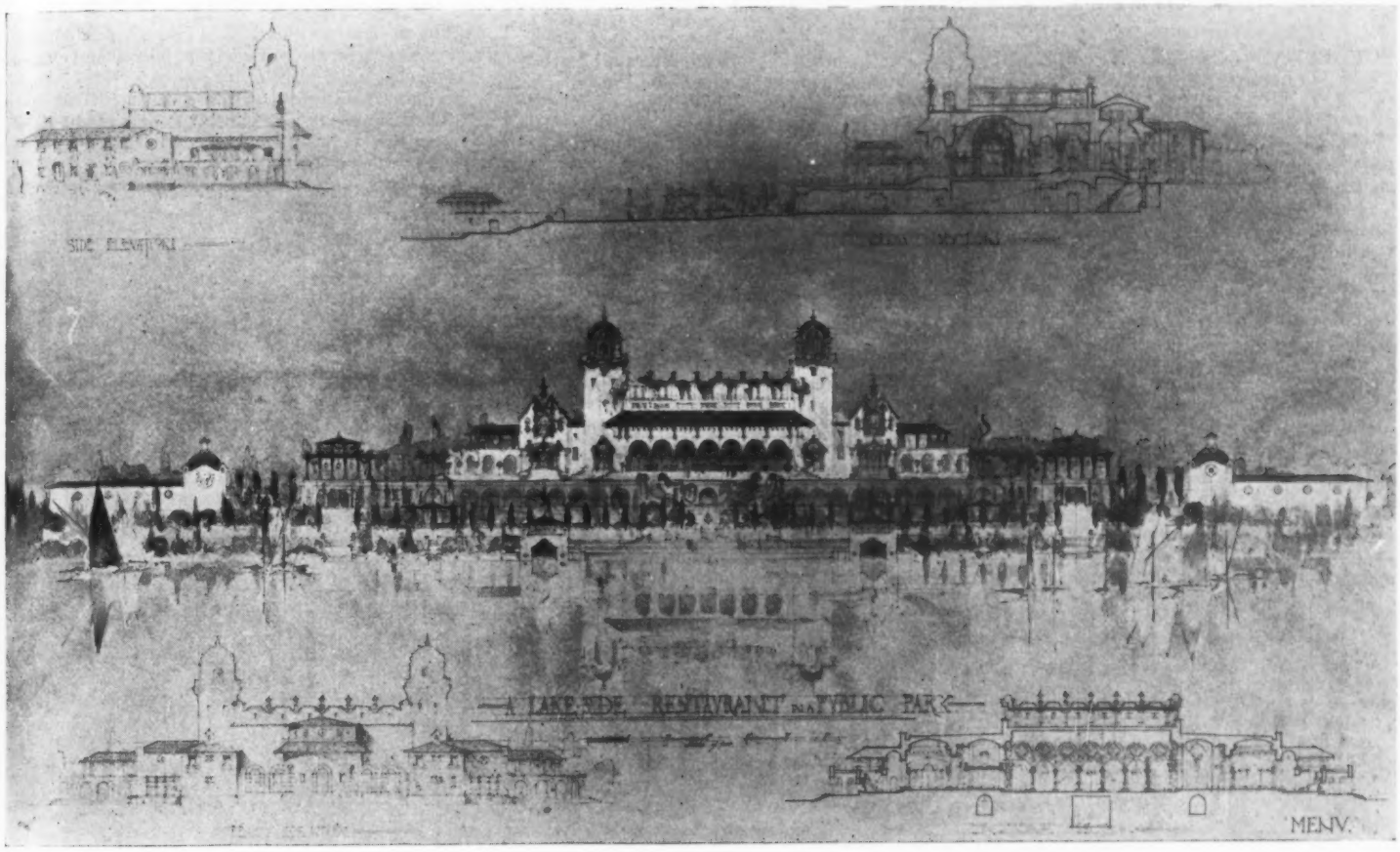
Design by MR. EDWARD W. MARTIN (Liverpool School of Architecture).

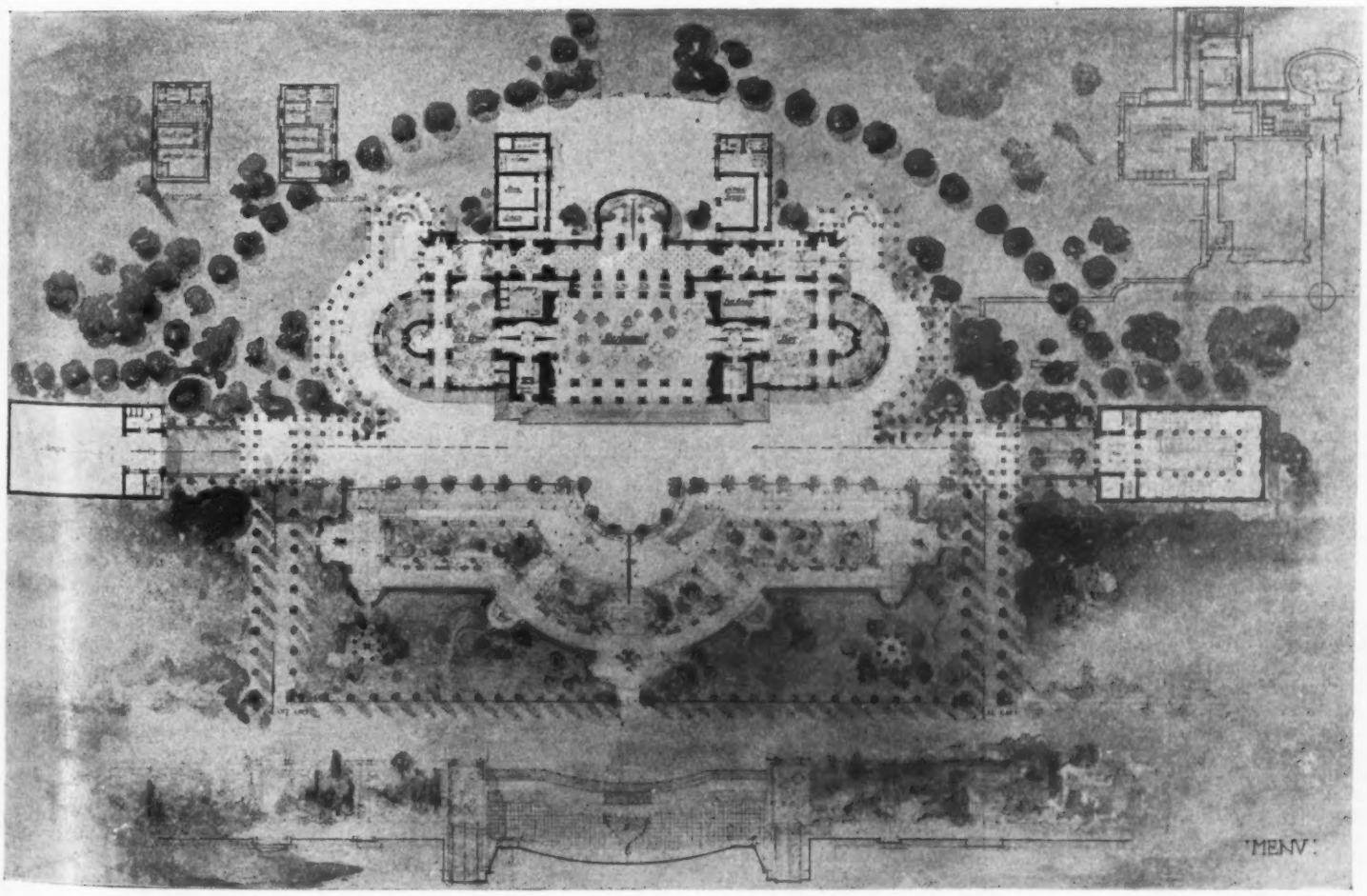




Rome Scholarship in Architecture : Preliminary Competition.

Design by MR. WESLEY DOUGILL (Liverpool School of Architecture).





Rome Scholarship in Architecture: Preliminary Competition.

Design by MR. ERIC ROSS ARTHUR (Liverpool School of Architecture).

ARCHITECTURAL SOCIETIES.

NOTTINGHAM & DERBY ARCHITECTURAL SOCIETY.

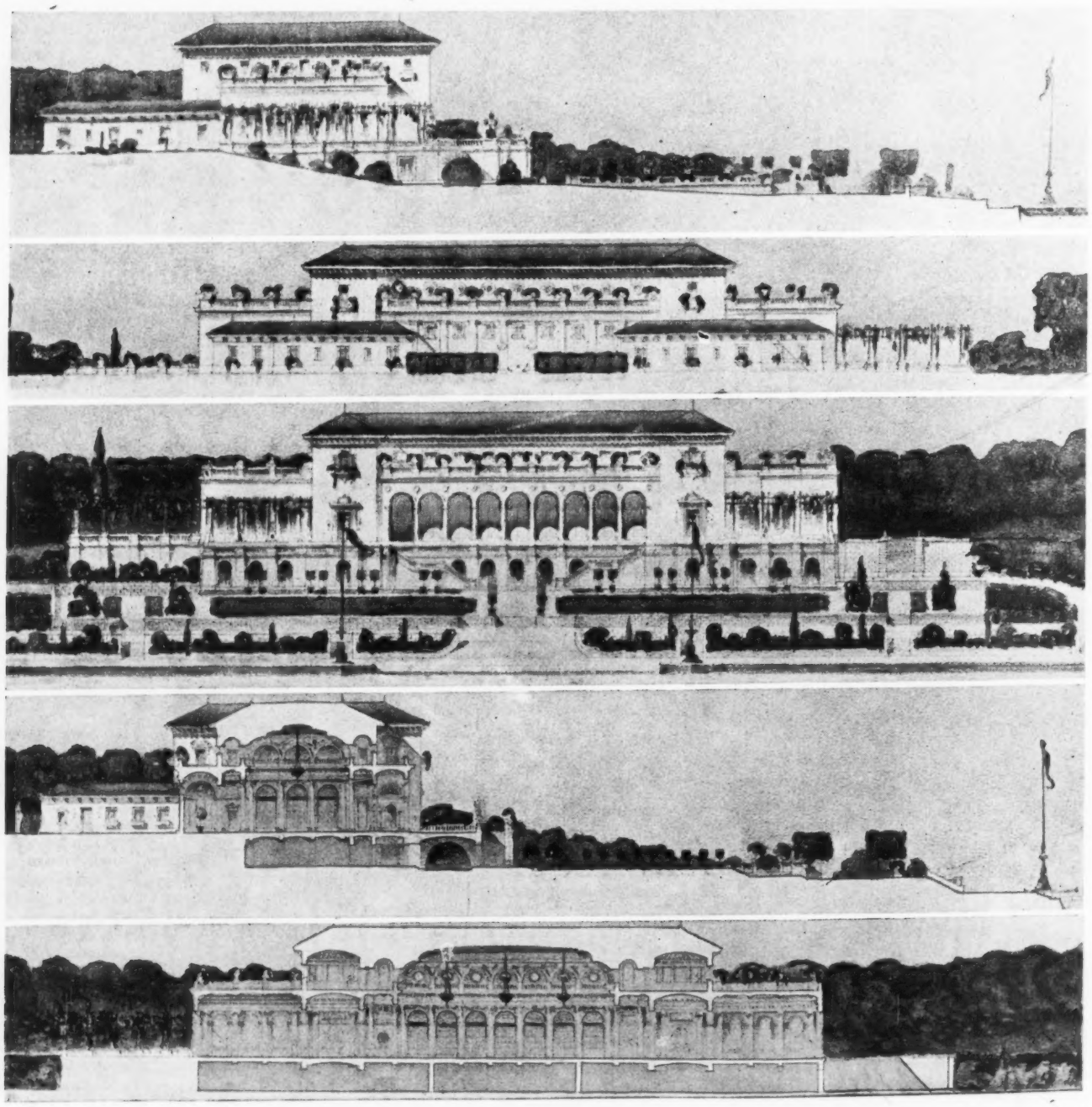
THE TOWERS AND DOMES OF ITALY.

A general meeting of the Nottingham and Derby Architectural Society was held at Derby on February 14, when a large number of members was present under the chairmanship of the President, Mr. A. Eaton, M.S.A.

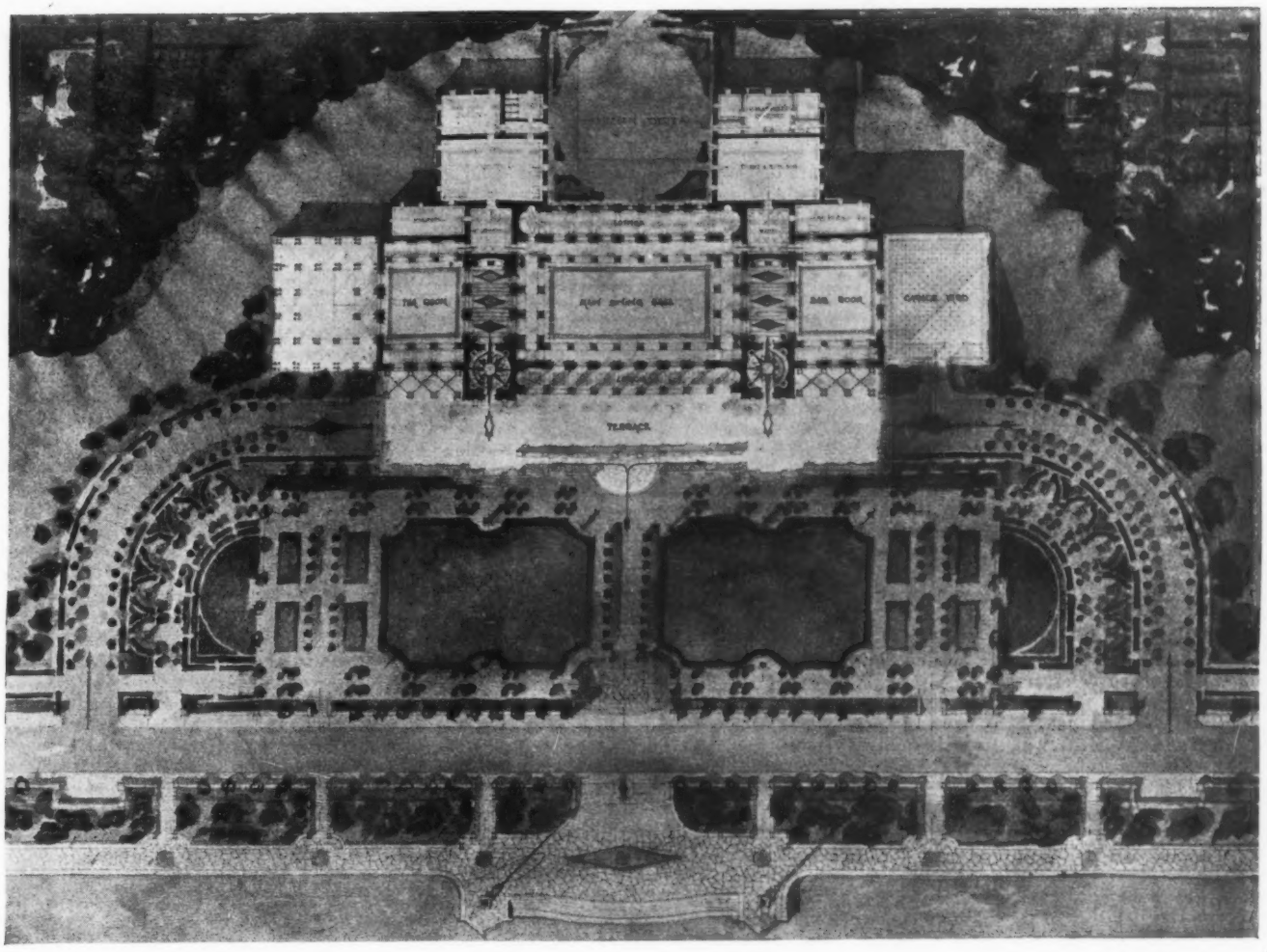
After a discussion on professional matters the members adjourned to the Technical College, where MR. G. SALWAY NICOLS, F.R.I.B.A., delivered a public lecture on "The Towers and Domes of Italy." The domes of Italy were, he said, a distinctive feature of the Renaissance times and almost every city and many villages possessed one or more examples of that wonderful architectu al feature. The gradual evolution of domical structures was to be traced from very early times, principally in the East, but no examples remained except of very modest dimensions. The Romans of classic times had, however, left the largest of all domes, the vast saucer-shaped roof of brick and concrete which spanned a circle of 140 ft. diameter, called the Pantheon, and it was remarkable that that great achievement should be the only building of its kind left. That dome was built on a circular wall 20 ft. thick, which replaced an open colonnade of an earlier building.

The Byzantine architects were the first to dare to place such a roof on a system of arches and pendentives, and a fine example of such work was St. Mark's Church, Venice, where very considerable areas were vaulted with arches, domes, and semidomes. It was not, however, until the Renaissance was fully developed that the dome was perfected, and lifted to a great height, forming the dominant feature of such churches as St. Peter's (Rome), the Duomo (Florence), San Biagio (Montepulciano). and Sante Maria della Salute (Venice). Those very noble buildings had not received the attention they deserved from Englishmen, largely on account of the narrow and prejudiced outlook of such popular critics as John Ruskin, who so wrongly condemned the whole Renaissance movement in architecture. No period in the history of building could show more energy, more freedom of thought and daring construction, than that of the great masters of the Renaissance. The architects were generally both sculptors and painters, and delighted to unite those three arts in the palaces and churches they built. Such men as Michael Angelo, Peruzzi, Raphael, Bramante, and Bernini all had important buildings to their credit as well as the sculpture and painting with which they were decorated.

The dome of St. Peter's in Rome was the largest and probably the finest amongst many a score which were built at that time, but it had suffered so much from subsequent alterations and additions that it could only be properly appreciated when study was given to it to realise what a splendid scheme Michael Angelo conceived, and almost completed before he died. Viewed from the north east it could best be followed, and from that point the great scale of the church had its effect, and the splendid proportions and the refinement of the details could be appreciated. The main wall of the church was no less than 165 ft. high, and enclosed the sanctuary and transepts, which formed three of the arms of the Greek cross, which was the plan of the original design. That great wall had one of the largest Corinthian orders in existence, the capitals of which were 10 ft. high, and with its



Rome Scholarship in Architecture: Preliminary Competition
Design by MR. EDWIN WILLIAMS (Liverpool School of Architecture).



Rome Scholarship in Architecture: Preliminary Competition.
Design by MR. EDWIN WILLIAMS (Liverpool School of Architecture).

dignified and restrained treatment produced a wonderful effect of might and power Above that was built the "drum" of the dome, crowned by a great circular cornice to a diameter of about 150 ft. Above that again was reared the "peristyle," which, with its own cornice, carried the cupola, which in turn was crowned by a very elaborate and beautiful lantern. Those simple but magnificent features attained a height of about 440 ft., or twice the height of the towers of York or Durham. The great masses piled one above the other were not mere size, but were designed with the greatest skill in beauty and refinement. Unfortunately, the plan was altered in later times and much of the effect destroyed, the portico and the smaller supporting domes never having been executed as designed.

Leading up to that design were many smaller schemes, notably Bramante's little dome at San Pietro in Montario, San Gallo's domed church in Montepulciano, and many others, which served as experiments for St. Peter's. The children of St. Peter's were very numerous, and included the domes of Paris, London, and Washington, and might have combined with them a system of small domes and towers, such as at Venice, whose Santa Maria della Salute figured perhaps more than any other building in the world on the painter's canvas. Those buildings would repay careful study and contemplation equally with the great Gothic cathedrals, and expressed broader and nobler thoughts in a language of greater tradition and dignity.

LEEDS AND WEST YORKSHIRE ARCHITECTURAL SOCIETY.

A lecture on the subject of lighting and the need for illuminating engineering was delivered before the Leeds and West Yorkshire Architectural Society recently by Mr. Lawrence M. Tye. In the course of his remarks, the lecturer said the recent advance in electric lighting had brought with it such high intrinsic brilliancy values that the use of modern light sources without due precautions being taken to relieve glare resulted in positively dangerous effects upon the eyesight. The brilliancy of oil lamps was in the neighbourhood of 3.8 candles per sq. in., and in the case of gas-filled metal-filament lamps this was increased to 2,000 candles per sq. in., in absolute contrast with the brightness of the average white sky, which varied from 2 to 5 candles per sq. in. The lecturer explained how the distribution could be modified by the use of various forms of illuminating glassware. From that he was able to derive illumination curves and correct spacing ratios to obtain the illumination intensities required. General practice called for three distinct types of distribution, generally accepted under the headings of extensive, intensive, and focussing. The extensive type was designed for the use of buildings with fairly low ceilings, or where the points were a considerable distance apart. The intensive type was intended for buildings having average ceiling heights and average spacing. The focusing type was designed for buildings with exceptionally high ceilings, or where the points were placed fairly close together.

The lecturer described the various forms of illuminating devices at present on the market. The first type considered was the various forms of opalescent glassware. Whilst the material gave reasonably good diffusion, he said, it operated with considerable absorption, but, what was more important from an illuminating standpoint, it could not give other than general distribution. That placed a considerable drawback on that class of material, seeing that it could not be universally applied to illuminating requirements without considerable loss in efficiency, due to the distribution being unsuitable. The next material considered was clear prismatic glassware, which had the great advantage that it presented a negligible absorption. By changing the contour any type of light distribution could be obtained, and at the same time excellent diffusion could be afforded by means of diffusion prisms, or those of a totally reflecting character.

The lecturer concluded by pointing out the special advantage of having all intensities measured by actual photometric readings rather than judging them by the visual effect, and pleaded for the co-operation of architects for the purpose of ensuring that buildings should be lighted with the aid of the illuminating engineer.

[Mr. Tye is lecturer to Messrs. Holophane.]

THE ARCHITECTS' AND SURVEYORS APPROVED SOCIETY.

At a general meeting of the Architects' and Surveyors' Approved Society, held recently, the Committee of Management's proposed new scale of benefits made possible by the satisfactory financial position revealed by the Government valuation was approved, so that in future the Society, membership of which is exclusive to those employed in architects' and surveyors' offices whose salaries are less than £250 per annum, will be entitled to the following benefits:—Maternity, £2 10s.; sickness (men), 17s. 6d. per week; (women), 14s. 6d. per week; disablement, 8s. 9d. per week; dental treatment, hospital treatment, medical appliances, optical treatment, and convalescent treatment. These benefits compare very favourably with those offered by other approved societies. The Society's invested funds amount to upwards of £8,000. The new Committee of Management is as follows:—Chairman, Mr. Lewis Solomon, F.R.I.B.A.; Treasurer, Mr. H. D. Searles-Wood, F.R.I.B.A.; Messrs. George Corderoy, F.S.I., W. Fagg, P. W. Farmer, Alexander Goddard, W. H. Hamlyn, A.R.I.B.A., G. N. Hannam, P.A.S.I., John B. Hector, M.S.A., R. B. Mann, F.S.I., C. McArthur Butler, E. C. P. Monson, F.R.I.B.A., and E. J. Sadgrove, F.R.I.B.A. The trustees are Messrs. Wm. Edgar Horne, M.P., Daniel Watney, F.S.I., and E. J. Sadgrove. The Secretary is Mr. F. R. Yerbury, of 34–35, Bedford-square, W.C.1.

ALEXANDRIA TOWN-PLANNING SCHEME.*

IN view of the competitions in Egypt for which British architects have been invited to compete, the publication of the descriptive note and plans of Mr. McLean's civic scheme for Alexandria has a topical as well as a professional interest. New building activities in the Near East demand that local conditions should be studied, if satisfactory results are to be obtained, and apart from its value as an example of an orderly scheme of development the present volume introduces to the Western reader many of the factors affecting architecture in a sunnier land.

Alexandria, which, as its European name might suggest, is a meeting place of many nationalities, cannot be regarded as a distinctly oriental city. Mr. McLean's town plan for its improvement and extension follows, therefore, on the lines laid down by the historic R.I.B.A. Town-Planning Conference of 1910. No attempt is made to imitate the narrow and tortuous streets of the Arab quarter. Broad avenues are suggested, running the greater part of the length of the strip of land which divides the sea from Lakes Maryût and Abukîr. A new avenue, 50 metres in width, is proposed to the east of the town. Leaving the Ramleh road at a point where it takes an obtuse angle bend behind Ibrah mia, the proposed course of this fine new artery lies at an average of two kilometres from the seashore, to which it approaches as it comes near to its termination at Abuk r Bay, some 18 kilometres east of the present Municipal Museum. Westward of the town, streets of narrower dimensions are indicated with a new bridge over the railway connecting them to the present city in the neighbourhood of the Catacombs and Pompey's Pillar. As the western suburbs are designed to run out for a distance of 12 kilometres this single new bridge seems somewhat inadequate, and its access to the railway station is restricted in width at an important street corner.

Only one important bridge exists at present between the Gabbari and Minet-el-Bassal quarters, and this bridge and the roads leading to it are not in a straight, continuous line. Two new streets carrying the line of the present bridge into the western suburbs are shown on Plan 4, and should relieve the congestion at the right-angle turn of the tramway in the Mex road. Further eastward, along the tram-line, in the heart of the city, another by-pass road is proposed, joining the Shâri Ibrahîm-el-Auwal and the Shâri-Sidi-el-Mitwâlli, which is in continuous line with the Ramleh road and the 50-metre avenue to Abukîr.

These are genuine improvements, but a more far-reaching scheme of east to west connection will probably be required as traffic increases with the growth of the city.

Some other improvements in the alignments of streets are shown in the centre of the Arab quarter; the Isthmus between the two harbours is also shown pierced by a canal suitable for fishing-craft, and it is hoped by its means to improve the flow of water in the two harbours. Plan No. 9 illustrates the canal with its five bascule bridges, the banks being formed with roads bordered by large buildings. The eastern harbour is to have a mole and breakwater although the residential character of the buildings on this sea-front does not seem to indicate that the Bay is likely to be used for the unloading of large craft. On the north side of the projected canal the improvements include an elliptical Champ-de-Mars, with triumphal arch in front of the Râs-el-Tîn Palace, and connected with this "Place" an avenue leading to the esplanade on the shore of Anfushi Bay, and thence with a curve towards the Mosque of Abu-el-'Abbâs. Plan No. 7 gives a view of the "Place" which it is proposed to establish about this mosque. The architecture is indicated as of a quasi-oriental style, but the use of bulbous and pear-shaped domes and the incongruous Renaissance boundary railings surrounding the mosque suggest the influence of European upon Arab art. Circular patches of garden ground with a few dwarf palm-trees are placed where space permits between the buildings. In the text of the report this "Place" is mentioned as being at the west end of the proposed avenue when it should obviously be at the east end, since it is designed to include an opening to the east harbour.

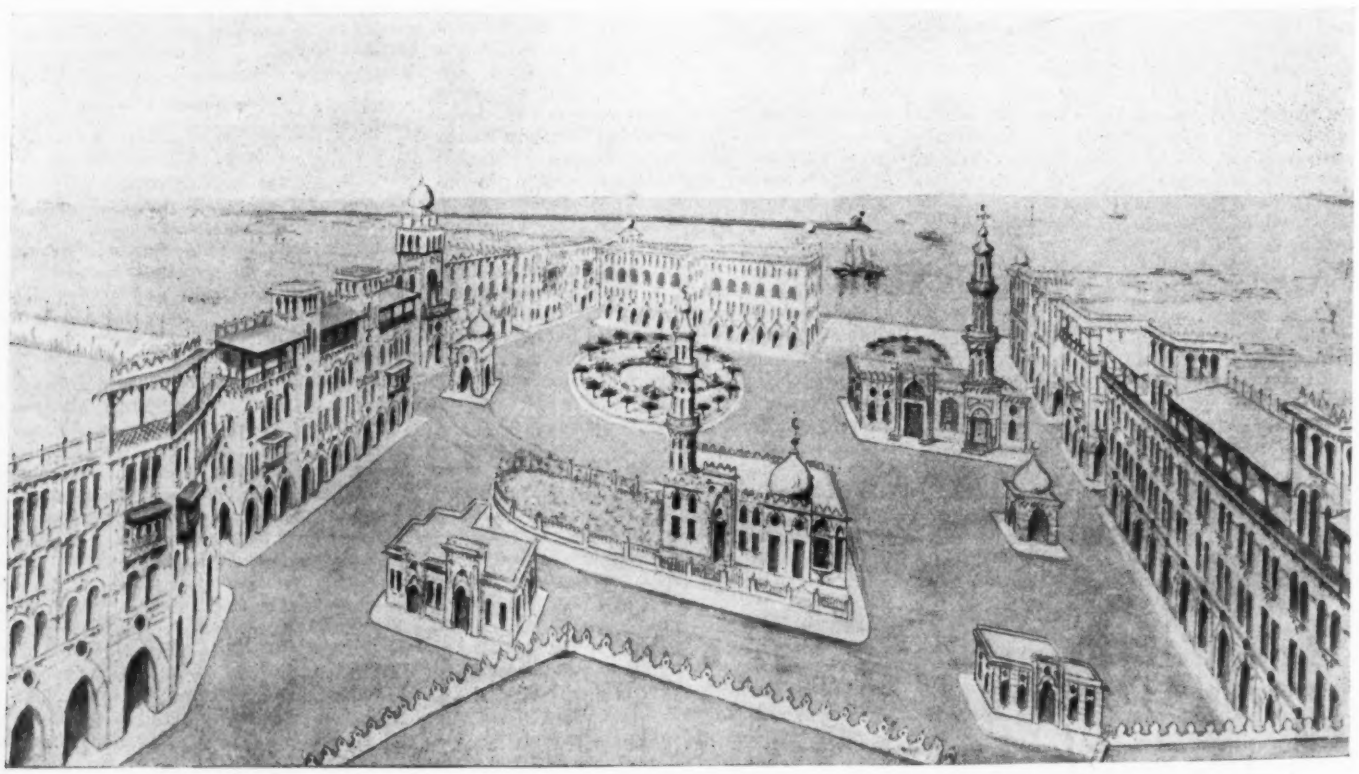
Apart from this minor slip, strangers to Alexandria would find some difficulty in consulting the large map of the town-planning scheme; all places on it are merely referred to Plan 4, although it is over 10 ft. in length and printed on three separate sheets; no attempt has been made to index it into numbered squares for reference. An esplanade or Corniche road is shown on the seashore both east and west of the city, and parks and gardens have been proposed at the Catacombs and Pompey's Pillar and at Fort Napoleon in the congested commercial quarter. The grounds of both the Government and British military hospitals are also shown as possible open spaces; the municipal gardens are extended to include a stadium to the south of the Ramleh road; and cemeteries are provided farther to the east. A race-course and aerodrome occupy part of the site of Lake Hadra near to the Antoniadis and Nouzha gardens, illustrated by photographs 25 and 26.

An attempt to mitigate the nuisance of Alexandria's slum areas is illustrated in Plan 14, where an assembly of huts and courtyards grouped in blocks of 10 or 20 units surrounds a small patch of garden ground enclosing the wash-houses and incinerator for the hundred inhabitants of the model colony; red colour on the plan shows that this scheme is already approved for erection on a site near the catacombs.

A most interesting historical note with plans and view of the ancient cities is contributed by Dr. E. Breccia, Curator of Alexandria Municipal Museum, who expresses a hope that the obelisks known as Cleopatra's Needles (one of which is in Central Park, New York, and the other on the Victoria Embankment, London) should be brought back to the place in which Cleopatra established them after their removal from the Temple of Heliopolis.

A valuable note on tree-planting in the streets of Alexandria is contributed by L. Monfront Bey, Director of Parks and Plantations, Alexandria Municipality. The trees are divided into classes suitable for use either on the sea-coast or farther inland, and will add to the beauty and comfort of the new streets. The town-planning scheme was approved by the Ministry of the Interior, Cairo, on July 12, 1921.

* *The City of Alexandria Town-Planning Scheme.* By W. H. McLean, M.Inst.C.E., Engineer-in-Chief to the Municipality of Alexandria. (Cairo: Government Press.) Price P.T.50.



Design for Proposed "Place" around the Mosque of Abu-el-'Abbas, Alexandria.
MR. W. H. MCLEAN, M.Inst.C.E., Engineer-in-Chief, Municipality of Alexandria.

THE WEEK IN PARLIAMENT.

WESTMINSTER, *Wednesday.*

Empire Exhibition Contract.

MR. RONALD M'NEILL asked the Parliamentary Secretary to the Overseas Trade Department whether the building contract for the British Empire Exhibition had been given to Sir Robert McAlpine & Sons, whether tenders were invited, and if the tender of Messrs. McAlpine was the lowest sent in; whether the contract with Messrs. McAlpine covered the whole amount of building required for the exhibition; and if he would say what was the total sum that would be payable to Messrs. McAlpine under the contract.

Sir P. Lloyd-Greame replied that the building contract for the British Empire Exhibition had been placed with Sir Robert McAlpine & Sons by the Executive Council of the Exhibition. The responsibility for the organisation and management of the Exhibition was in the hands of the Executive Council of the Exhibition, and such matters as were referred to in the question fell entirely within its purview.

Mr. R. M'Neill asked whether tenders were invited, and, in reply, Sir P. Lloyd-Greame said he rather hesitated to go into any details of the case. The Council was in exactly the same position as the other guarantors. He understood it was not possible to invite tenders in cases of that kind, because specific plans could not be given on which to tender, but he understood that other firms were consulted and that the Executive Council decided the offer it accepted was a suitable one.

Mr. R. M'Neill asked what was the total amount payable under the contract, and why that firm was favoured in giving the contract when no tenders were invited.

Sir P. Lloyd-Greame, in reply, said he was certain it was not the case that any firm was unduly favoured. The Council, whose money was at stake in the matter, and who represented the financial and commercial interests which, in common with the Government, were guaranteeing the exhibition, in the exercise of its discretion, made a contract which it thought proper, and he would certainly dissent from any suggestion that it was influenced by any unworthy motive.

Mr. Raper asked whether they were to understand that it was the opinion of the Government that work of that nature was not to be put up to public tender at all.

Sir P. Lloyd-Greame agreed, and said he was advised that, owing to the particular nature of that case, where plans could not be produced in advance, it was impossible to invite tenders.

Housing.

Mr. Charles Edwards asked the number of houses included in contracts approved by the Ministry of Health, and the average cost per house during the following periods; where the contracts were approved by him prior to June 30, 1921; where the contracts were approved by him between June 30 and December 31, 1921; and where the contracts were approved during the current year.

Sir A. Mond said the number of houses in approved tenders was 165,330. The average tender prices approved for those periods were: Prior to June 30, 1921, £815 and £917 for non-parlour and parlour houses respectively; for the period, June 30 to December 31, 1921, £593 and £684; and during the current year, £478 and £534.

Mr. Munro, Secretary for Scotland, in reply to Sir Donald Maclean, said that, as few tenders had been submitted since last July, he had little information as to current prices for houses in Scotland, but in one recent case tenders had been received for three-apartment flatted houses at £634 per house. An addition of 1,050 houses had been made to the limits announced for Scotland last session, and in the present circumstances the Government could not undertake to extend this further.

Sir A. Mond informed Mr. Grattan Doyle that the number of separate housing schemes approved for local authorities and public utility societies was 4,372. The capital commitments in respect of the schemes for which tenders had been approved amounted approximately to £178,000,000.

Replying to Sir William Davison, Sir A. Mond said that the total of the estimates for the acquisition and conversion of houses in the borough of Kensington into flats was £39,245. The actual cost on completion was £83,415, the excess being £44,170. He understood the excess was mainly due to the fact that when the houses were opened up for the purpose of carrying out the conversion, a very large amount of repair to the structure of the houses, which could not be foreseen, was found to be necessary. The remainder of the excess was due to increases in the cost of wages and materials and to variations found necessary in the scheme after the estimate was made.

In answer to Mr. A. Williams, Sir A. Mond said that, in view of the large programme of housing still to be completed and the continued reduction in prices, he hoped that further State intervention in any form would not be required, and that the building industry would return to its pre-war economic basis.

Mr. Mills asked the Minister of Health whether, in view of the fact that houses for which a subsidy had been paid were being kept empty for sale, he would introduce legislation to compel owners to let them within a limited time or to compel the owners to pay rates for them if refusing tenants.

Sir A. Mond replied that he had no evidence that this practice was in any way extensive. The present falling prices were unfavourable to its adoption.

Mr. Riley asked whether the Minister of Health was aware that in the City of London empty premises were placed on half rates; and whether that could not be applied to other parts of the country.—Sir A. Mond said he would consider that question, but it was one of very great difficulty.

Alleged Trade Trusts.

Commander Bellairs asked the Prime Minister whether the Government contemplated legislation against the tyranny of rings and trusts in this country; whether he would consider handing over the task of framing a Bill to a committee of disinterested business men before whom could be placed the existing evidence, including the Government and municipal experience of the corner of all building materials as soon as it was known that all parties at the General Election were undertaking to embark on vast building schemes?

Mr. Chamberlain, Lord Privy Seal, replied that the whole question of legislation in respect of trusts and combinations which was one of very considerable difficulty, was being considered in the light of the information which had been collected in various official inquiries during recent years into the extent and operation of such trade organisations, but it would not be practicable to introduce legislation on the subject during the present session.

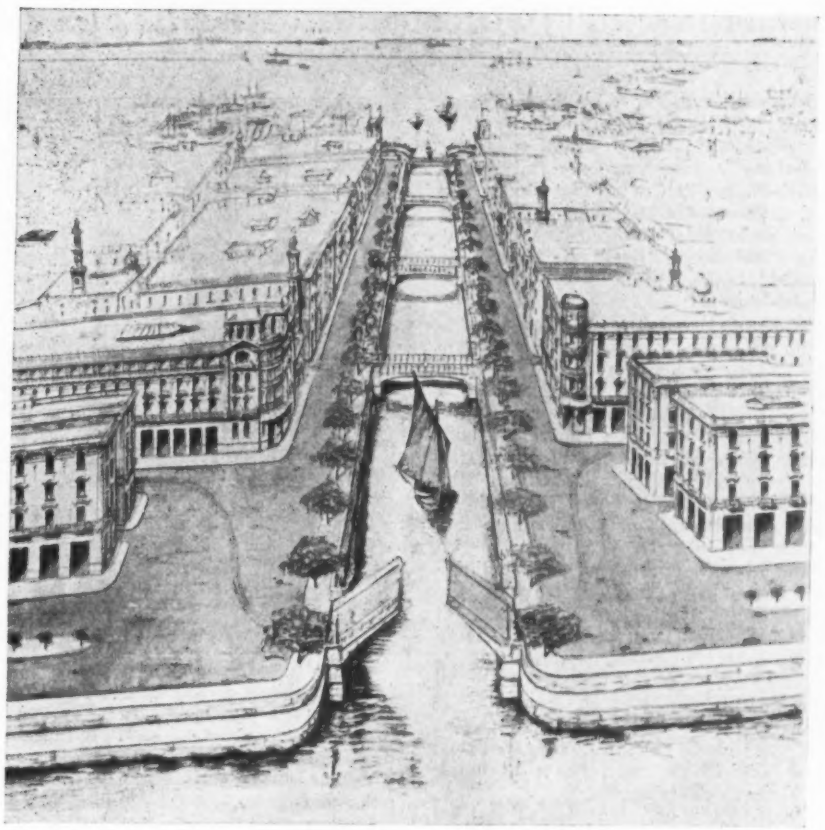
Government Offices at Acton.

Sir J. Gilmour, replying for the First Commissioner of Works to Lieut.-Colonel James, who asked what progress had been made with the Government offices under construction at Acton, said the building at Acton had been planned in six blocks, of which four had been completed, and the remaining two would, it was hoped, be completed by the end of March, with the possible exception of certain engineering work.

The Director-General of Housing.

Mr. Hopkins asked the Minister of Health whether his attention had been called to the address on "The Architect and the State" which was recently delivered to the Society of Architects by the Director-General of Housing; and what action he proposed to take in the matter.

Sir A. Mond said his attention had been called to the address in question, in which he gathered that the Director-General had suggested that architects and others had not fully availed themselves of the opportunities which their participation in the housing scheme afforded them. He was afraid there was ground for thinking that this was true of most of the parties concerned in the housing scheme, and he did not think that any action on his part was required as regarded the Director-General of Housing, whose services had been of the utmost value to the State.



Design for Proposed Râs-el-Tin Canal, Alexandria.

MR. W. H. MCLEAN, M.Inst.C.E., Engineer-in-Chief, Municipality of Alexandria. (*See p.* 306).

GEOMETRICAL PROPORTION IN ARCHITECTURE.*

THIS well-produced and very learned book could hardly be adequately reviewed by anyone but the author. It is so of all specialist work, and there is something of unfairness in a "critic" examining in a few hours the results of years of disinterested and serious labour and pretending to pronounce upon it. The subject, at once intricate and immense, is, I should think, next door to being as understandable to certain types of mind as the scientific side of Relativity. Moreover, it is almost, indeed quite, impossible for anyone who has tried to think over and to come to some conclusions on kindred theories to avoid some sort of pre-judgment, if not prejudice.

It will be best to state the general purpose of the work in the words of the prospectus:

"This remarkable work, embodying the results of a prolonged study of the building arts during the classic and mediæval epochs, should prove of absorbing interest to all serious students of art history. Its publication has been made possible through the public spirit of the Norwegian Parliament, at whose expense it has been produced, it being felt that the author's researches afford important data for consideration at the hands of those who will ultimately be charged with the restoration of the great Norman-Gothic Cathedral of Nideros, the national sanctuary of Norway, one of the most beautiful buildings of Northern Europe.

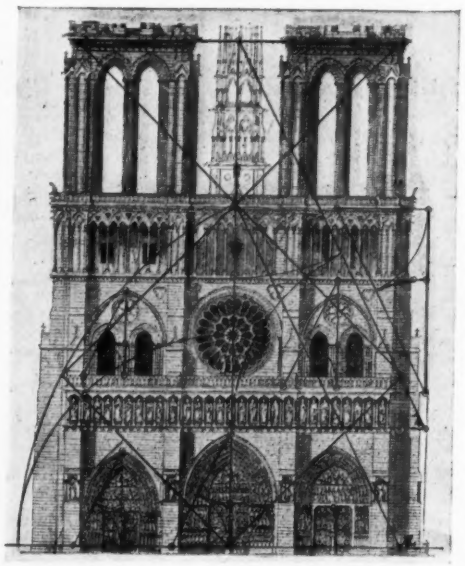
"The learned author, an historian and art critic of international repute, sets out to prove that the great temples of classical antiquity, no less than the succeeding church buildings of mediæval times, were conceived as a coherent whole according to recognised geometrical principles based upon a logical yet richly varied use of a certain proportion between the width, the length, and the height of the building, the structure being planned upon an ever-varying play of the elementary regular polygons and their angles. He contends that these laws of geometrical proportions had sunk so deeply in the minds of the ancient builders that they were able to create not only beautiful architectural types, but were capable of varying, without infringing, the regularity of these laws, so that, keeping strictly to the principles of construction, the unity of the whole was attained even in the variations.

"The author shows that mediæval church architecture was a direct continuation of the art of building classic temples, which in its turn expressed the perception of Greek philosophy concerning the harmony of the universe. The temple was supposed to be the material image of the mystery of existence. Its proportioning was, therefore, established according to an irrational measure, in an ascending, harmonic, geometrical progression, as appears in the pentagram, which for the Pythagoreans was the symbol of the harmonious system in the Cosmos, the masterpiece of the universe."

As an example of the method of the author we reproduce here the diagram of the west front of Notre-Dame with the text relating to it.

"In the figure we give the front elevation of Notre-Dame of Paris. This was begun, as mentioned, in 1163, and finished in 1220: it is planned, therefore, about three generations before Cologne. Both the main and the secondary divisions of the front, as well as the placing of the rose window, are determined by proportions of the sectio aurea. In fig. 59 (Pl. IV) it can be seen, by the construction of the sectio aurea put in red, that the level of the centre of the rose in the large window of the gable in the northern transept is determined in the same manner because the radius of the rose is the minor of the height of the window. This cathedral also has its modulus as shown in fig. 52."

The text contains besides the exposition of the main proposition much valuable information and many delightful appreciations, and



The West Front of Notre Dame.

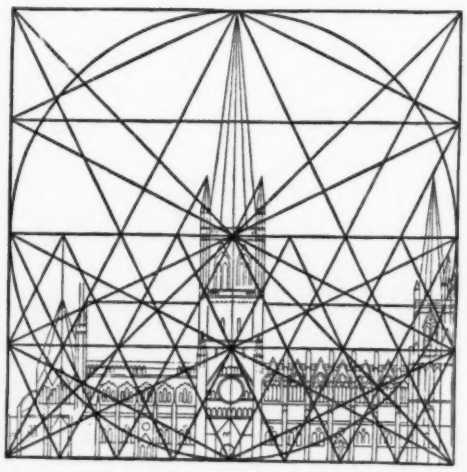
further, its conviction and enthusiasm are moving and inspiring:—

"The Middle Ages had not only inherited, but it developed, the classic temple. It added its temperament to it, a somewhat mysterious feeling of nature belonging to a northern clime. A merely intellectual joy of constructing could not have produced the heaven-reaching, fantastic cathedral, which technically far surpasses the classic temple.

"We know that Tacitus thought it peculiar that the Germanic races used forests and dark groves as places of worship. The Middle Ages transferred the forest to the temple. It is worth noticing concerning this that it was just in the part of France subjected to Germanic or Norwegian influences that cathedrals grew higher and higher on their columns, branching out like trees in a grove under the high vaulting. They obtained the darkness of the grove, while the light from stained glass windows produced a wonderful play of colour in the dusk of the forest of stone.

"The mediæval builders infused in the masonry of their cathedrals the whole-hearted love of Nature. Leaves and flowers sprang from the capitals in the folds of the arches, not coarsely modelled indications of any kind of blossom, but real flowers seemed to grow organically from the stone. All that man had supposed and humbly wondered at, since antiquity—the miracle of life—was put into the cathedral by the mediæval workers.

"In the Middle Ages the church was 'the people's house,' and it was loved by the whole people. In mediæval times wages were relatively high, but nevertheless we see that even small dioceses and small towns could afford



The Cathedral of Nideros, Throndhjem.

to build these enormous works of splendour, which, like a microcosmos, mirrored the time's idea of universal unity: from man to God through Christ."

The general theory of the book leads up to a special application: the restoration of the Cathedral of Nideros, Throndhjem: "For the present what is important is that the rediscovery of these harmonious rules has brought fixed laws for the completion of the great work of rebuilding the Cathedral of Nideros." As we too well know in England, "restoration" and "rebuilding" are ominous words when applied to great national monuments. I wish it might be serviceable to put in a plea for stay of execution, but I fear it is too late for wishes. I remember William Morris asking me twenty-five years ago whether I had seen this once wonderful church, and on my saying "No" he urged me to do so at once, for it was being restored, and after a few years no one would ever see it again as it had come down to our time.

To return to the main question of proportioning living structures by the arbitrary imposition of lines, I must say that I do not think *Ad Quadratum* is in any way convincing, except indeed inversely. The more I read of such attempts the more I am convinced that it can never have been like that when art really flourished unfolding by its own vital principles.

The idea of this book is very closely akin to the system of Mr. Jay Hambidge, and of one family, indeed, with a dozen other systems of triangulation and rectangulation. I may say here that Mr. Hambidge's theories are meeting with more closely reasoned criticism in America than in England. In the March number of the *American Journal of Archæology* appeared a clear examination of the system, and a verdict of not proven. In the *Art Bulletin* of the College Art Association of America, also for March, 1921, is a still clearer and more adverse examination, which applies in many respects to all such-like webs of lines woven over a work of art. I must quote from this one or two passages:—

"Anyone who will take the trouble to go over these several methods of subdividing an enclosing rectangle, with a view to estimating the number of lines which they permit drawing across it, will, we believe, become convinced that the number is very great, and that they form a fine network over the whole. It seems hardly possible that any detail would escape had one only time and patience to try all variations—if, indeed, the task were not practically endless. . . . Hamoidge's diagrams consist of a few lines carefully chosen from many available. . . . The claim that dynamic symmetry in any way expresses the essentials of plant and animal forms is without rational foundation. The statements that the diagrams of dynamic symmetry are 'commensurable in square' and composed of commensurable areas are for the most part incorrect. The attempt to base differences of artistic quality on the differences between rational and irrational quantities is bound to fail—the eye is powerless to make the distinction. The rectangles of dynamic symmetry are of themselves inert and lacking of any directive force. . . . As a method for modern designers dynamic symmetry has nothing of value to offer, and by imposing false standards and needless restrictions can but hamper the freedom of creative inspiration."—(Edwin M. Blake.)

This analysis and conclusion almost equally applies to the book more particularly before us. Here, again, at the end we meet the phrase "creative inspiration" to which I called attention in my little paper in *The Builder* for December 2, 1921. In this idea rather than in any attempt to net beauty in cobwebs is the only hope for our art in the near future.

W. R. LETHABY.

* "Ad Quadratum: A Study of the Geometrical Bases of Classic and Mediæval Religious Architecture, with special reference to their application in the restoration of the Cathedral of Nideros (Throndhjem), Norway." By Fredrik Macody Lund. Printed by order of the Norwegian Parliament, and published by B. T. Batsford, Ltd., London. Price £5 net.

LEGAL SECTION.

NOTES ON CURRENT CASES.

Tenancies from Year to Year.

In a recent note we had occasion to point out that although yearly tenancies were often entered into by tenants because of their apparent simplicity, and as we may now add because some tenants desire to feel free to leave at short notice, yet perhaps more points arise for decision by the courts on such agreements than on longer and more formal demises by lease.

An example of this is again afforded by the recent case Freeman *v.* Evans and Another (1922, 1 Ch. 36), where the facts were as follows: By an agreement dated May 28, 1888, the plaintiff's predecessors in title had let certain premises to the defendant (Evans) for the term of one year and then from year to year, the tenant agreeing not to sublet without license in writing, but on November 29, 1918, the defendant Evans did sublet a portion of the premises to Fletcher & Co., also defendants in this action, the sublease being by the year and subject to three months' notice. It is not stated exactly when the plaintiff in this action became seized of the property or whether it was by purchase or otherwise, and in this case it is unnecessary to consider the original breach of covenant committeed by the defendant Evans in subletting without license, or such points as we recently discussed in Davenport *v.* Smith (*The Builder*, December 30, 1921), for by an indenture of lease dated December 31, 1919, the plaintiff then being seized of the property leased the same to the defendant Evans for a term of five years, this lease containing a covenant that the defendant should not sublet without leave and giving the lessor a right of re-entry on breach of covenant.

The whole point in the case now turns on the relation of Evans to his subtenants, Fletcher & Co., who, it will be seen, held a portion of the premises as subtenants from Evans as from November 29, 1918, before the granting of this new lease to Evans. After the granting of this lease in December 1919, to Evans, he wrote to Fletcher & Co. informing them he had taken a new lease, but as it was at an increased rental he must raise their rent by £50. Some correspondence passed between Evans and Fletcher, and then Evans wrote, "We beg to say we have, in our opinion, furnished you with all information necessary, and if you do not feel disposed to pay the increase we have no alternative but to give you notice herewith," and the letter was accompanied with the following notice dated February 24, 1920, "We hereby give you three months' notice to quit and deliver up possession of the premises . . . now occupied by you as subtenants on June 1, 1920." Fletcher & Co. then agreed to pay the increased rent demanded, and the notice to quit was subsequently cancelled.

On June 7, 1920, however, the plaintiff commenced this action to recover possession of the premises from Evans on the ground that he had committed a breach of covenant by subletting without license, and this raised the point decided in the case: Had Evans created a new tenancy with his subtenants (Fletcher & Co.) or was it merely a continuation of the old subtenancy for the breach of which covenant the plaintiff could not sue since, by the surrender of the yearly tenancy originally granted to Evans and the granting of a new tenancy to him, the plaintiff had waived any right to take advantage of the original breach of covenant?

The Deputy Chancellor of the County Palatine of Lancaster had held that no new subtenancy had been created, and this was an appeal by the plaintiffs from his decision. The Court of Appeal held that there was a new subtenancy created, thus following an old decision, Tayleur *v.* Wildin (1868, L.R. 3 Ex. 303), the headnote of which is, "By a notice to quit given to a tenant from year to year his tenancy is determined on the expiration of the current year, and a waiver of the notice creates a new tenancy taking effect on the expiration of the old one."

The present decision is very important because some doubt has been thrown on the case of Tayleur *v.* Wildin by an Irish decision given in the case Lord Inchiquin *v.* Lyons (1887, 20 L.R.Ir. 474), and this doubt is expressed in text-books on the law of landlord and tenant. There is one important distinction, however, between the Irish decision and the present one. In the Irish case it was the original lessor who was claiming that a new tenancy had been created, whereas in Tayleur's case, as in the present, the question was raised by a third party not one of the direct parties to the lease, but from the judgments now delivered by the Court of Appeal we think this distinction will not hold good in other cases, and the effect of the decision is to define the law that if a notice to quit determining a tenancy is given which is a valid notice that notice cannot be waived without the consent of both parties, which consent creates a new tenancy.

One other minor point arose in the case. It was contended that the notice in this case was not a good notice because of the covering letter which had to be read with it, and that the two documents read together amounted to the offer of an option that either the tenant must pay the increased rent or he must go; but the court did not so read the letter and notice, but read them as though the letter ran "as you do not feel disposed to pay the increased rent but only continue to ask for further information we have no alternative but to give you notice," and held the notice to quit to be a valid notice.

The Requisition of Land.

In the recent case Blackpool Corporation *v.* Starr Estate Co., Ltd. (1922, 1 A.C. 27) the House of Lords had to consider an important point in connection with the Acquisition of Land (Assessment of Compensation) Act, 1919. Under a private Act of Parliament, the Blackpool Improvement Act, 1917, the Corporation was entitled by section 62 "to enter upon, take and use all or any part of the following lands delineated on the deposited plans," and included in these lands was the land of the respondents, the Starr Estate Co. In addition to this general power there was a particular clause (70) in the Act relating to the land of the Starr Estate Co., which provided that the Company "shall sell and the Corporation shall purchase the whole of the lands," the price in default of agreement to be determined by arbitration in the manner provided by the Lands Clauses Act as modified or altered by this Act. The Corporation was to serve notice to treat as soon as possible after the termination of the war, and at most within three years from the termination of the war; the Corporation was not to allow the lands to be used for certain purposes, and the conveyance of the lands was to be in a form agreed upon between the parties.

Notice to treat had been served on August 20, 1919, and on September 17 the respondents (the Company) had delivered their claim. The parties having failed to agree the amount of compensation, the Corporation, the appellants, claimed that it should be assessed under the Acquisition of Land (Assessment of Compensation) Act, 1919.

That Act was passed on August 19, 1919, but came into force on September 1, 1919, and by section 12 subsection (1) it is provided that it shall not apply where before that date the appointment of an arbitration, &c., has been completed or a jury has been empanelled. Section 1 subsection (1) provides, "Where by or under any Statute (whether passed before or after the passing of this Act) land is authorised to be acquired compulsorily by any . . . local authority any question of disputed compensation shall be . . . determined . . . according to the provisions of this Act." Section 7 subsection (1) provides, "The provisions of the Act . . . by which the land is authorised to be acquired or of any Act incorporated therewith shall in relation to the matters dealt with in this Act have effect subject to this Act, and so far as inconsistent with this Act those provisions shall cease to have or shall not have effect."

The court below had held that the Acquisition Act applied, but the Court of Appeal had reversed that decision, and the House of Lords had to decide the question whether the general enactment in the Acquisition Act overruled or superseded the special Act. Viscount Finlay, Viscount Cave, and Lord Phillimore held that the Acquisition Act did not apply on two grounds, (1) that the land was not acquired compulsorily under clause 62 of the Blackpool Act but under section 70, which embodied a special agreement between the parties, and (2) even if it could be said that the lands were acquired compulsorily, the general provisions of the Acquisition Act could not supersede such special provisions as those contained in section 70 of the Blackpool Act. Viscount Haldane based his judgment on the second ground alone, whilst Lord Shaw of Dunfermline founded his on the first ground only.

The second ground is the more important of the two as it is likely to be of more general application than the first ground, which may be peculiar to this case, and it will be noticed four of the Law Lords took that ground. Lord Haldane laid down the rule of construction thus: "Wherever Parliament in an earlier statute has directed its attention to an individual case and has made provision for it unambiguously there arises a presumption that, if a subsequent statute of the legislature lays down a general principle, that general principle must not be taken as meant to rip up what the legislature had before provided for individually, unless an intention to do so is specially declared," and he continued to explain that "language which is in its character only general refers to subject matter appropriate to class as distinguished from individual treatment."

Trade Union Law: Membership.

We can only briefly refer to the recent decision of the Court of Appeal in the case of McLuskey *v.* Cole (1922, 1 Ch. 7), although in these days when trade unions are federated the decision is of importance. The action was brought by the plaintiffs, who were the Secretary, President, Vice-President, Treasurer, and Trustees of an unregistered trade union or association, the Glasgow and District Glass Bottle Makers' Trade Protection Society, against the President, Secretary, and Trustees of the National Federation of Glass Bottle Makers. These plaintiffs and defendants were also named and sued, and were sued "on behalf of themselves and every other member of" the societies. The defendant Federation was an unregistered union formed to "unite in a fraternal bond the glass bottle workers of Great Britain and Ireland," and under the rules there was a national conference which decided applications for admission or re-admission and passed resolutions.

In December, 1919, this national conference had passed a resolution that the districts be asked whether they were in favour of forming a National Joint Conciliation Committee in place of the present existing Wages Board or Conciliation Committee. The plaintiff Society had passed a resolution that it would take no vote on this resolution, as the Glasgow Wages Board was satisfactory to it, and the defendant Federation had thereupon passed a resolution to the effect that the plaintiff Society had forfeited its membership in the Federation. The plaintiff Society brought this action for a declaration that this resolution of expulsion was *ultra vires*, and that the plaintiff Society remained a constituent part of the defendant Federation, and for an injunction restraining

the defendant Federation from acting on the resolution.

In the court below, the judge, having first decided that the objects of the Federation were what is termed for the purposes of the Trade Union Act "illegal," as being in restraint of trade, held that the agreement between the Society and the Federation, which it was the object of the action to enforce, came within section 4 subsection (4) of the Trade Union Act, 1871 ("any agreement made between one trade union and another"), and therefore the court could not entertain the action. In the Court of Appeal much was made of the point that one trade union could not be a member of another, which was what the Society claimed to be as regards the Federation. The Court of Appeal appears, without definitely deciding the point, to have held that this was at any rate an agreement made between one trade union and another which was unenforceable in any court by reason of section 4 subsection (4) of the Trade Union Act, 1871, but the Court also appeared inclined to think that since the Trade Union Act of 1913 one union might be a member of another trade union.

Conspiracy and Protection of Property Act.

The case Fowler *v.* Kibble (noted in our issue for November 25, 1921) has been appealed (see *The Times*, January 24) on the special point to which we there drew attention. In that case certain miners were suing certain officials of a trade union, who it was alleged had procured or attempted to procure a breach of contract between the plaintiffs and their employers, the acts complained of being as stated below, and that the defendants had informed the plaintiffs that unless they joined a union recognised by the other employees they would be unable to continue in their employment. On this part of the case the court had held there was a trade dispute, and therefore under section 3 of the Trade Disputes Act the court had no power to interfere. But the point which was the subject of appeal was one under section 7 of the Conspiracy and Protection of Property Act, 1875, and arose as follows: It was alleged that the defendants had told the lampman whose duty it was to hand the men their lamps not to hand the plaintiffs their lamps, in consequence of which the plaintiffs had been unable to go to work; it was alleged that this was a breach of the above section, which makes it an offence to hide any property or to deprive a workman of the use of it with a view to compelling him to abstain from doing any act he has a legal right to do. The court below did not decide whether, had a criminal act in breach of this section been committed, it would give a cause for a civil action, as it held that the defendants' action did not amount to a breach of the section, as there was no physical violence, but the Court of Appeal, whilst affirming the decision, has gone rather further, holding on the authority of Ward, Lock & Co. *v.* Operative Printers' Assistants' Society (22 *Times*, 2 L.R. 327) that section 7 of the Conspiracy Act made nothing actionable which was not actionable before, *i.e.*, it affected no civil remedy. In the result, the Court of Appeal held that there had been no wrongful deprivation of tools or hindrance to work within the section, and if the acts complained of were done with the intention of procuring a breach of contract between the plaintiffs and their employers, although that might be actionable at common law, yet the action would be barred by section 3 of the Trade Disputes Act.

Some further questions as to the obligations on mineowners in reference to supplying lamps were not decided, as a case on that point is pending.

Increase of Rent: Suspension on Habitability.

A new point was raised under the Rent Act in the recent case, X-Rays, Ltd., *v.* Armitage (*Weekly Notes*, January 21). The plaintiffs had let to the defendant a house on a weekly tenancy, and on August 9, 1921, due notice to quit had been given to the tenant, together with a notice of increase of rent under the Act. The tenant did not give up possession and did not pay the increased rent, and the plaintiffs, on September 19, 1921, commenced proceedings in the High Court, claiming possession and mesne profits at the increased rent claimed in the notice.

The defendant, amongst other defences, contended that the plaintiffs were not entitled to the increase claimed by reason of section 2 subsection (2) of the Rent Act, which provides "at any time or times not being less than three months after the date of any increase permitted by paragraph (*d*) of the foregoing section the tenant or the sanitary authority may apply to the county court for an order suspending such increase and also any increase under paragraph (*c*) of that subsection, on the ground that the house is not in all respects reasonably fit for human habitation or is otherwise not in a reasonable state of repair." A certificate as required by this subsection had been given by the London County Council as to the condition of the house.

The question was raised whether the High Court could order the suspension, and the court decided that it could not and that the application must be made to the county court, but not less than three months after the date of the permitted increase. In these proceedings the High Court appears to have given judgment for the plaintiffs for some portion of their claim, but so far as possession goes to have granted relief to the defendant.

"Notices" to Repair.

In our issue for January 7, 1921, we referred to the report of a case before the magistrate at Tower Bridge Police Court, circulated by the Bermondsey Borough Council, in which notices had been served under Section 28 of the Town-Planning Act, 1919, to repair certain houses, and, the notices not having been complied with, the Council had undertaken the repairs itself and was suing to recover the expenses thus incurred. In that case one of the points raised was that the court of summary jurisdiction could not consider the question whether the time allowed by the notices in which the work was to be done was "reasonable," as if there was any appeal at all it was either to quarter sessions or to the Ministry of Health. In that case the magistrate overruled that objection and proceeded to hear the appeals, and it is instructive to find that this point has now been raised and decided by the High Court in the recent case Ryall *v.* Cubitt Heath (*Weekly Notes*, November 26).

The appellant was the Town Clerk of the Borough of Bermondsey, and the respondents were "owners" within Section 28 of the Town-Planning, etc., Act, 1919, of some 500 houses within the district. Early in 1920 the Council had given notice to the respondents requiring them to repair certain of these houses, but the report does not state the number of houses in respect of which these notices were given. The notices, however were not complied with, and on April 23, 1920, formal notices under Section 28, Subsection (1) (twenty-three in number) were served, requiring the work specified to be done within twenty-one days. The respondents did not comply with these notices, and the Council did the work itself under Subsection (2), and on November 15 served demands on the respondents for expenses connected with the work. The demands were not met, and summonses were taken out under Subsection (3). At the hearing of these summonses the magistrate found that the respondents could not by any reasonable effort or diligence have complied with the twenty-three notices in the time allowed, and he held that the period of twenty-one days was unreasonable and that the notices were invalid.

On the appeal of the Council from this decision it was argued that the magistrate had no power under Section 28 to decide whether the time specified was reasonable, but he should have made the order and then the owners could have appealed to quarter sessions under Section 35 of the Housing of the Working Classes Act, 1890. That section which relates to closing orders and demolition provides that where any person is aggrieved by an "order" of the local authority made under this part of the Act the appeal lies to quarter sessions. The Divisional Court decided that a "notice" under Section 28 of the Housing Act, 1919, was not the same thing as an "order" under Section 35 of the Act of 1890; that in considering proceedings taken under Section 28 of the Act of 1919 the local authority had to show that the conditions laid down in that section had been complied with, and therefore the magistrate had to consider whether a reasonable time had been allowed in the notices.

There is one other point of importance in this case, for the local authority had also argued that even if the magistrate had power to consider whether the time in the notices was reasonable, yet he must only consider the time in relation to each particular notice, but the court decided that the magistrate was justified in considering the time in relation to all the circumstances of the case. This has some bearing upon the point we have recently drawn attention to in connection with a recent decision as to the time allowed in notices under the Public Health Act to frontagers in making up streets (*The Builder*, November 11 and November 25, 1921). In those notes we pointed out that if the time was regarded only in connection with each particular frontager, as was suggested in that case, extreme hardship would ensue.

MURAL DECORATION.

THE Royal Academy, with a view to promoting the arts of design connected with the decoration of buildings, proposes to hold an exhibition of decorative painting and sculpture at Burlington House in January and February, 1923. The exhibition will have a twofold object: in the first place, to direct attention to the important part which the arts of painting and sculpture should take in architectural schemes, by showing what British artists can contribute to this end when suitable opportunities are offered to them; and, second, to suggest to younger artists and students the great possibilities of these decorative arts for the expression of the thoughts and feelings of the community at each turning-point in its history.

In connection with this exhibition, the Council of the Academy states:—The Royal Academy Schools have recently started the study of decorative painting on a large scale, and other schools of art are working in the same direction. The time has now arrived for a public review of our resources and openings in this field, and it is hoped civic authorities throughout the country will take an interest in the exhibition, which will include painting, mosaic, tapestry or sculpture for the permanent decoration of buildings, and designs or cartoons in drawing or painting models in plaster, &c., for such decorations. It is thought that with suitable encouragement many of our younger artists will be found capable of carrying on and developing the great traditions of these once honoured but now neglected arts. Decorations designed as suggestions for imaginary buildings or spaces would be acceptable for the exhibition. At the same time, with a view to the practical encouragement of artists, the President and Council would be glad to know of any scheme of decoration which municipal or other authorities either intend or might find it possible to put in hand, and hope to receive information of any definite spaces in buildings available for decoration by artists selected by open competition. The London County Council has agreed to place spaces in its new County Hall at the disposal of four of the principal art schools of London, for decoration by the students under the supervision of the masters of these schools. The Committee of the British Empire Exhibition, 1924, will also, it is understood, provide space for mural decoration at Wembley Park. It is hoped that other municipal authorities will follow these examples.

PROPOSED HIGHER BUILDINGS FOR LONDON

"In a report presented to the London County Council this week on the proposal that the restrictions at present obtaining in the height of buildings of large cubical contents, the London Building Acts Committee of the Council states that it has further considered the matter and has come to the conclusion that "from a constructional point of view there would be no objection to buildings of the type now under consideration being erected to the height permitted by section 47 of the London Building Act, 1894, and there would appear to be no insuperable difficulty in obtaining the provision of adequate means of escape. These considerations are, however, of secondary importance. The essential and determining factor is that the height must not exceed the limit within which a fire in any part of the building can be promptly dealt with by the fire brigade. The buildings in question have large floor areas, and we are advised that in the event of fire they are difficult to deal with, even if isolated, and that, if situated near others of a lesser height, they become an actual danger to those buildings. Some protection could be provided in high buildings of large cubical extent by the installation of fixed fire appliances in the building, but we are advised that this could not be accepted as absolutely reliable. It not infrequently happens that a high-pressure water main becomes fractured, and such an event might in itself be sufficient to dislocate the most elaborate equipment. In such circumstances mobile fire appliances would have to be depended upon, when height combined with the area of the floors would prove a determining factor in any successful operations. We have given very careful consideration to the question whether the Council can now modify its ruling in regard to the height of cubical extent buildings, and, in view of the advice which we have received and after consultation with the Fire Brigade Committee, we think the Council can safely allow, as a general rule, such buildings to be erected to a height of 80 ft. measured from the pavement level to the underside of the ceiling of the topmost story. This means, practically, the addition of another story. We recommend—That the height of buildings to which section 17 of the London County Council (General Powers) Act, 1908, applies, shall not, except with the consent of the Council, exceed 80 ft. measured from the pavement level to the underside of the ceiling of the topmost story."

HOUSES IN SILVER-GREY BLOCKS, WITH STRINGCOURSE IN BLACK AND DRESSINGS IN SANDSTONE.

Liverpool Corporation Housing Scheme.

MR. F. E. G. BADGER, Housing Director to the Corporation.

LIVERPOOL HOUSING SCHEME.

ON the Cherry-lane Estate of the Liverpool Corporation housing scheme some concrete houses have been erected, to the designs of Mr. F. E. G. Badger, Director of Housing to the Corporation, in which an endeavour has been made with considerable success to obtain a more artistic effect than is usually associated with concrete blocks. This result has been secured by a colour treatment which, it is claimed, entails no additional cost when compared with ordinary selected common brickwork. The colouring is applied to the surface of the blocks, and stippled, as the blocks are made, thus obviating the necessity for keeping large stocks of pallets of special patterns. The durability of the colour is, of course, of primary importance, and it is interesting to note that the houses illustrated in this issue have weathered two winters without any deleterious effects. In addition to the houses illustrated several other designs are included in the scheme, and there is hardly a pair of houses exactly alike; as a whole, however, they appear to blend very well together.

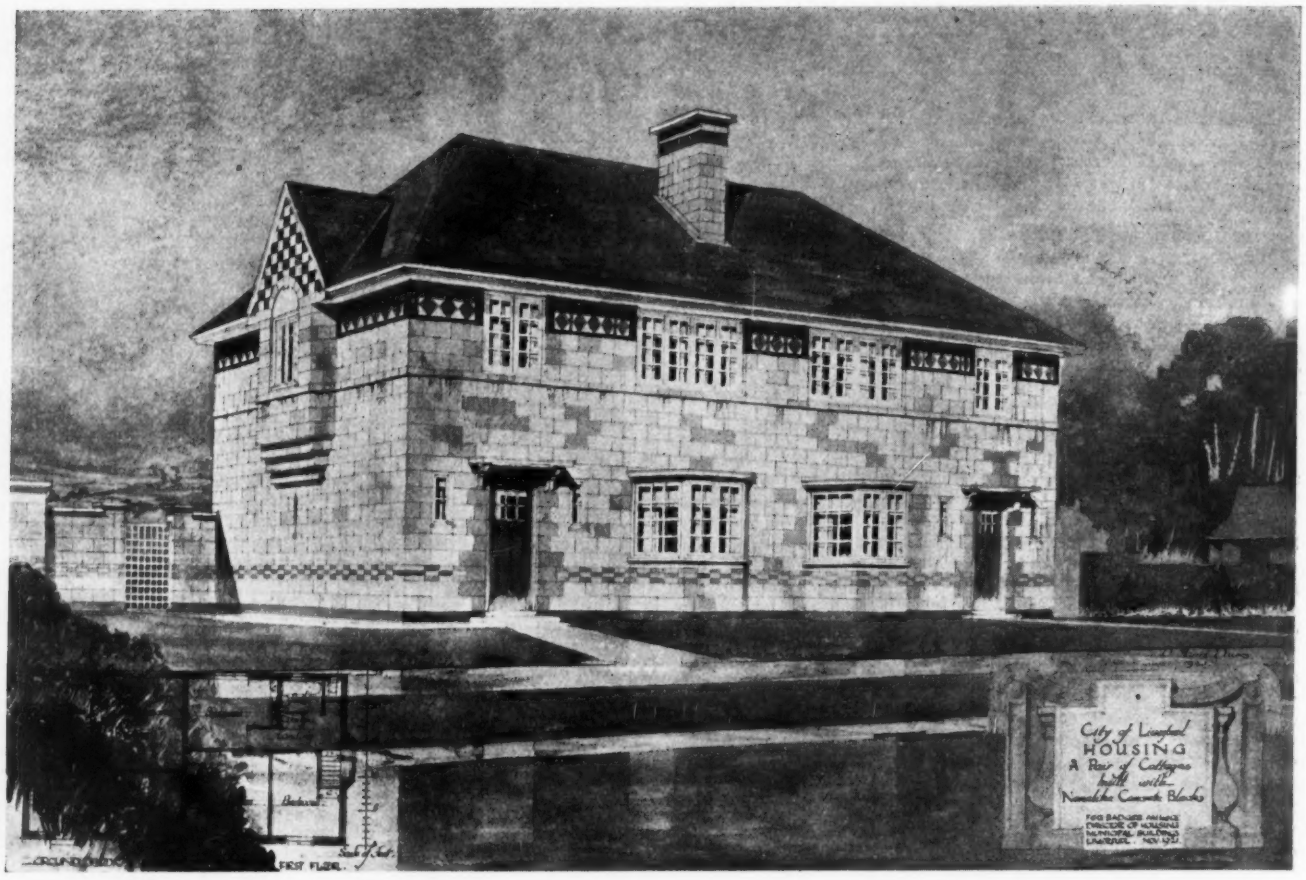
Attention has also been directed to securing economy and rapidity in the interior decoration of the walls by the use of concrete blocks which will dispense with the services of the plasterer, and twenty houses have now been built on the estate in which no plasterers have been engaged either externally or internally. The insides of the walls have been covered with ordinary wallpaper, and the ceilings are formed of narrow tongued-and-grooved and V-jointed boarding covered with two coats of water paint. In the later houses sand-faced blocks of any desired colour are being used internally for the living-rooms; in these cases blocks of a darker tint, sized and varnished, are used to form a dado. The blocks in the upper part of such walls are unvarnished and finished with an egg-shell face in order to avoid condensation.

A pair of houses built with these blocks will shortly be completed at Welwyn Garden Suburb, where they are being erected to the design of Mr. Leonard Martin, F.R.I.B.A., of 17, Waterloo-place, S.W.

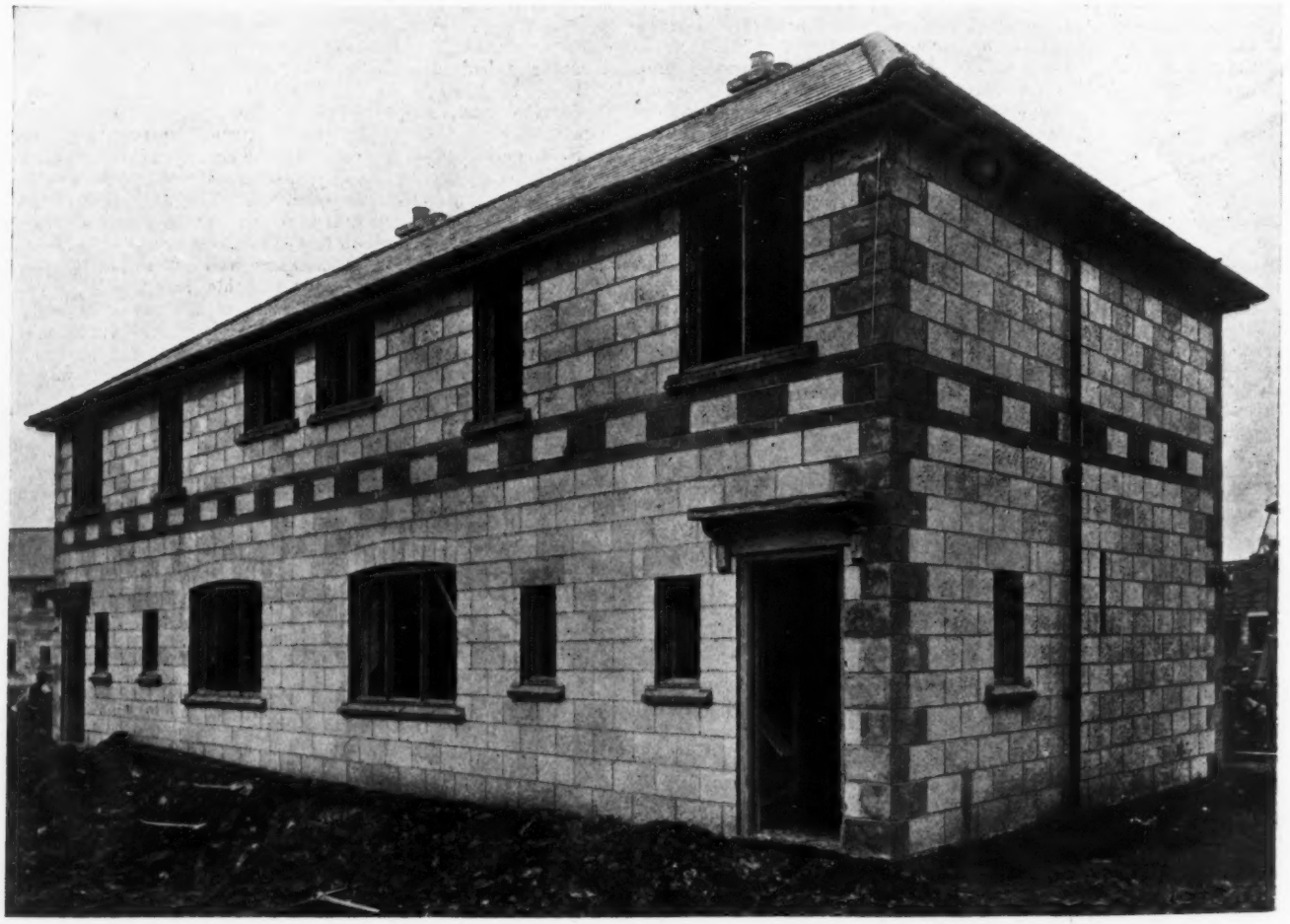
HOUSES IN DARK SILVER-GREY, WITH STRINGCOURSE IN BLACK.

Liverpool Corporation Housing Scheme.

MR. F. E. G. BADGER, Housing Director to the Corporation



[The panels under the eaves are red squares enclosed in a dark coloured frame; the lower-coloured band and the blocks around the doors are in a yellow tint; the upper band on the chimney stack is in green, and the lower in red.]



QUOINS AND STRINGCOURSE IN GREY, REMAINDER WHITE.

Liverpool Corporation Housing Scheme.

MR. F. E. G. BADGER, Director of Housing to the Corporation. (*See p.* 311.)

THE SURVEYORS' INSTITUTION.

ANNUAL DINNER.

A DISTINGUISHED gathering assembled at the Connaught Rooms, W.C., on Tuesday, on the occasion of the annual dinner of the Surveyors' Institution. The chair was occupied by Mr. J. H. Sabin (President), and amongst the company were the Marquess of Crewe, Lord Sumner, Sir Lewis Dibdin, Sir John Oakley, Sir Castle Floud, Sir Richard Hopkins, Sir H. Kingsley Wood, Sir Claud Schuster, Sir Edwin Savill, Sir Harold Smith, Sir Howard Frank, Sir Lynden Macassey, Sir Theodore Chambers, Sir Arthur Roberts, Sir Henry Tanner, Sir W. H. Wells, the Hon. Edward Strutt, and Messrs. Howard Martin, J. Willmott, W. Cash (President, Institute of Chartered Accountants), J. D. Wallis, H. C. Thornton (Crown Agent for the Colonies), H. D. Searles-Wood (Vice-President, R.I.B.A.), B. Marr Johnson, G. H. Paine (Vice-President, Society of Architects), G. H. Leeder, S. E. Downing, Leslie Vigers, Edgar Thorne, E. A. David, Eustace Hills, E. A. Rawlence, George Courthorpe, M.P., J. I. Davidson, W. M. Robertson, C. H. Bedells, G. Turville Brown, W. R. Davidge, J. E. Drower, M. C. Duchesne, E. Knapp Fisher, G. Topham Forest (Superintending Architect of the London County Council), F. H. A. Hardcastle, Frank Hunt, H. J. Leaning, H. Lovegrove, John Murray, L. R. Vigers, A. G. Watney, John Wilmot, and Wm. Woodward.

After the loyal toasts had been proposed by the President and duly honoured, Mr. E. W. Rushworth proposed the toast of "The Guests."

In reply, Lord Sumner said the country was taxed to such an extent that saving, which he was brought up to regard as a virtue, was dead, and no one knew better than those present how nearly at the end of their tether were those classes that 20 years ago were the main support of our social system. An organised society like the Surveyors' Institution could suggest to those who ruled us that there was such a thing as cutting one's coat according to one's cloth. There really did come a tide in the affairs of men which, taken at the ebb, led on to disaster, and the country was involved in that ebb.

Sir Lewis Dibdin, K.C., D.C.L., also replied.

The Marquess of Crewe proposed the toast of "The Surveyors' Institution," the members of which, he said, had suffered greatly through the war. There had been a great interruption in the flow of talent to the profession, but that state of affairs was righting itself. He noticed the stress the Institution placed nowadays on the groundwork of a broad general education. It might be that neglect of technical education in the past had led to an excessive rebound, and the idea that technical education was all that was required was obsolete. Half or more of their professional life had to deal with other human beings, and it was only by other studies that the professional man could get a proper knowledge of the relation between his own profession and life as a whole. After referring to the housing problem, he said the old agricultural land system had come to an end, and there was no need to describe what had made the position of the landowners impossible. There might be a future for the small occupying owner, and there might be some remnant left of the old landlord and tenant system. But considering the immense advantages we possessed in this isle, there was no need to despair of the future of British agriculture.

A response by the President on behalf of the Institution terminated the proceedings.

TOWN PLANNING.—A special committee has been set up by the Surveyors' Institution to consider the position which will arise on section 46 of the Housing, Town-Planning, &c., Act, 1919, coming into operation at the end of the present year. Under that section all boroughs and urban districts of 20,000 inhabitants and upwards are required to prepare and submit town-planning schemes to the Ministry of Health. Under section 45 the Ministry has power to permit the development of estates pending the preparation and approval of schemes, and, in order to prevent stoppage of development and the sterilisation of large areas of land over considerable periods, the committee has been asked to consider how these powers could best be exercised.

THE EXAMINATIONS.—The following candidates have satisfied the examiners in the Preliminary Examination, 1922:—

F. L. Angell, London.
H. S. Atkinson, Worthing.
S. H. Bach, London.
E. S. Bright, Wimbledon.
A. T. Brown, Banstead.
J. A. Burrell, Willesden.
F. I. Catliff, London.
J. H. C. Chapman, Scarborough.
F. O. Coleman, Lancaster.
W. C. Collard, Charing.
G. W. R. Cook, Linton.
C. J. Curtis, Bedford.
E. Dancy, Brighton.
J. P. Davis, Hornsey.
R. M. Denton, Banbury.
G. S. Faragher, Birkenhead.
C. L. Fenton-Jones, Folkestone.
A. G. French, Edgbaston.
N. Gates, Arlesford.
J. Gibbs, Norbury.
G. S. Goodman, Reigate.
S. H. Greville, Wembley.
N. F. Hall, Chester-le-Street,
H. R. Harvey, Bristol.
H. D. Hayne, Bedford.
E. C. Hill, Streatham.
N. Hindmarch, Chester-le-Street.
L. C. Holmans, London.
C. R. Honnywill, Hawkhurst.
R. G. Horley, Cardiff.
H. V. Knight, Lowestoft.
F. R. Kruse, Cirencester.
M. J. Lock, Carisbrooke.
B. G. Longmore, Kidderminster.
A. B. Lucas, Castle Cary
A. E. Marchant, Hawkhurst.
A. E. Mason, Arundel.
E. Middleton, Rochdale.
A. S. Moore, London.
*F. E. Moore, Hereford.
G. M. B. Mundy, Faringdon.
O. H. Parry, Bristol.
L. J. Pattemore, Chard
G. Payne, Shortlands.
F. W. Plaskett, Fulham.
W. Rowbotham, Morecambe.
L. F. Sendall, Horsham.
F. C. Sherwill, Chipstead.
L. N. C. Southwood, Bristol.
E. A. C. Tarrant, Willesden.
N. T. Townsend, Burton-on-Trent.
H. K. C. Ward, Milford Haven.
O. I. Welch, Brighton.
W. L. Whittle, Watford.
S. F. Wilson, Gravesend.
E. Wiseman, Barking.
A. Young, Stamford.

Scottish Candidate.—D. Grant, Queensferry.

Irish Candidate.—H. H. Lander, Dublin.

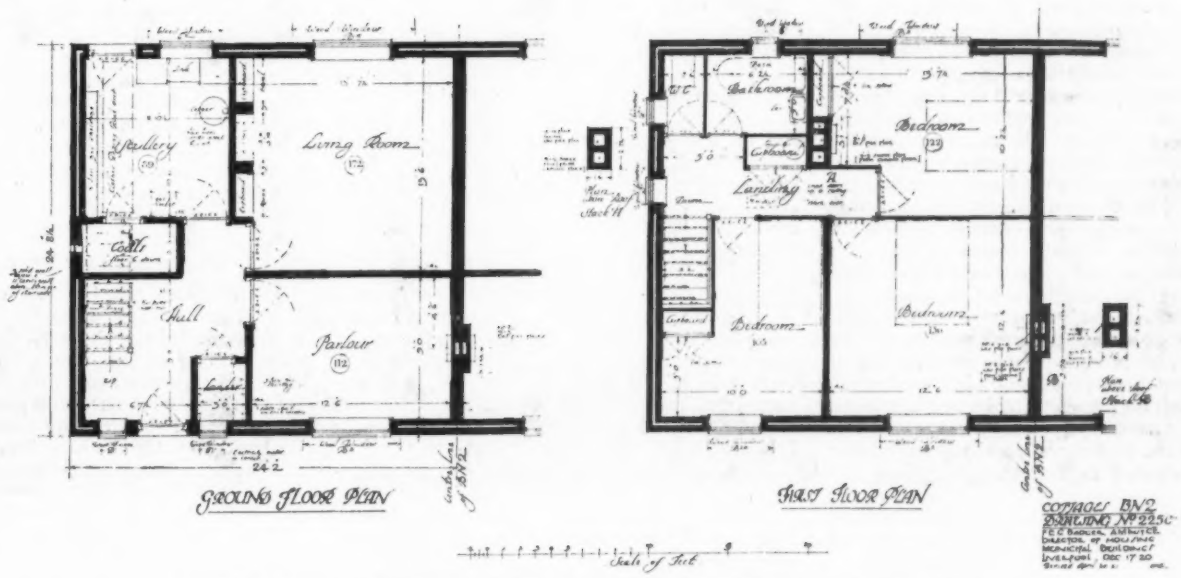
*Head of List.

Old London Bridge.

As stated in our last issue, the Concrete Institute has called together a conference of professional societies, City companies, and others interested in the question of the preservation of the old arches recently discovered under London Bridge, the first meeting of which will be held at the offices of the Institute (Denison House, Vauxhall Bridge-road, S.W.) on February 27, at 5.30 p.m. The Institute has been informed that the cost of preserving this ancient relic of London of very many centuries ago would amount to £7,000. It is believed there are various funds which might be utilised for the purpose.

New Piccadilly Stores.

Negotiations have now been completed leading to the acquisition by Messrs. Harrods, in addition to the premises of Messrs. Swan & Edgar, of the complete island site bounded by Piccadilly-circus, Regent-street, and Air-street. This site will shortly be transformed into extensive modern stores. The capital involved aggregates £2,000,000. The intention of the firm is to inaugurate stores which will include all the latest improvements for the convenience of shoppers, and will include a large café, with a floor suitable for dancing. The size and development of the new building, it is stated, will depend on the concessions granted by the authorities, with whom negotiations are now being entered into with regard to restrictions in height.



Liverpool Corporation Housing Scheme: Type "A" Cottages, North Aspect.

MR. F. E. G. BADGER, Director of Housing to the Corporation.

LABOUR-SAVING HOUSE COMPETITION.

SIR,—My letter of the 10th instant, relative to the winning design in this competition, has been replied to by Mr. Reginald Fry in last week's issue of *The Builder*. I feel it my duty, in justice to all concerned, to say that either my statement or that made by Mr. Fry is incorrect as to the aspect of the kitchen, larder, and principal rooms. Without seeing Mr. Hepworth's lay-out plan I will not be convinced that my remark as to their aspect is wrong, for, as the promoters distinctly stated to a definite question put to them, the main entrance to the house should be from the west side, it follows, *in rerum natura*, that the rooms facing the opposite way will be facing eastwards. Perhaps Mr. Hepworth will publish his lay-out plan so that it may be seen which of our statements is correct. I commented on the winning design, being an interested competitor, but I certainly should not wish my statement to be a misleading one.

It seems to be desirable to know in planning a house for a professional class family what the numerical size of the family is. Mr. Fry thinks my "Victorian" allowance of six children too liberal, for which I claimed a provision of six bedrooms. He, with a smaller family, suggests seven bedrooms, which goes to show the difficulty of planning a home for an unknown number. As the present competition has produced no practical solution it is to be hoped that when the next scheme is set on foot architects may be told what, in the promoters' opinion, is the size of the "professional class" family.

Mr. P. G. Hayes, in his last paragraph, touches a vital point in saying closer association with the domestic side of the situation is called for, and one is inclined to think that the real solution will not be effected until the lady architect somes to the rescue.

EDWARD A. JOLYE, A.R.I.B.A.

SIR,—Is it the design or the picture that wins the premium in architectural competitions? I ask the question because there has been considerable discussion lately on the subject, and also because of my own experience in the *Daily Mail* competition. In this competition I sent in a design practically the same as that of the winner of the first premium, and yet I did not even get a mention. Every one of my ten rooms is in the same position room for room; the wash basins and wardrobes are in the same positions; I have the same projection at the entrance door—in fact, you could mistake one plan for the other. My elevation is practically the same. I have the hipped roof, overhanging eaves, French window to dining-room, stringer under the bedroom window, and the only difference I can see is that I have quoins at the corners. The winner has French windows to drawing room and study; so to all intents they are the same. Is it because my perspective is not so elaborate as the winner's? True, I have not shown the elaborate garden the winner shows, which, by the way, is out of scale, I venture to suggest, with his dining room (and we read a lot about scale), but the conditions say distinctly the garden is no part of the competition (answer to question 28—"the design is for a house and not its grounds; competitors are advised to show the house and not an ambitious garden scheme").

I take it that conditions governing a competition are the same as a specification governing a contract and intended to be worked to; if not, what good are they? Condition 22 says: "All printing on drawings to be in plain block lettering." Answer to question 20 says that this condition must be followed, and yet the winner has not followed it and therefore does not comply with the conditions; by departing from the conditions he obtains an advantage, because no one will deny that fancy lettering is put on for effect.

From my observation it appears that the architect wins who ignores the conditions. In a recent school competition the conditions stated that the buildings must be of substantial construction, and yet the winner's design was steel lathing and plaster—not very substantial.

Again, there appears something wrong with the conditions for this year's Grissell Prize competition. The jury seems to have ignored the conditions, which state that the prize is for the encouragement of the study of construction. Therefore, constructional design is the main object aimed at, and it emphasises this by printing "mooring mast" in capital letters. The Deed of Award, as given in *The Builder*, says the subject was "A Mooring Mast for an Airship," and that is what any sensible person would think after carefully reading the conditions, and that the hotel was a very minor matter, the object being for the competitors to provide the accommodation inside the cone made by the airship. It appears from the award (see last paragraph) that these conditions have been fulfilled by some competitors, but the award has been withheld because they have not included a monumental study of an hotel façade in artistic water-colour-artist style.

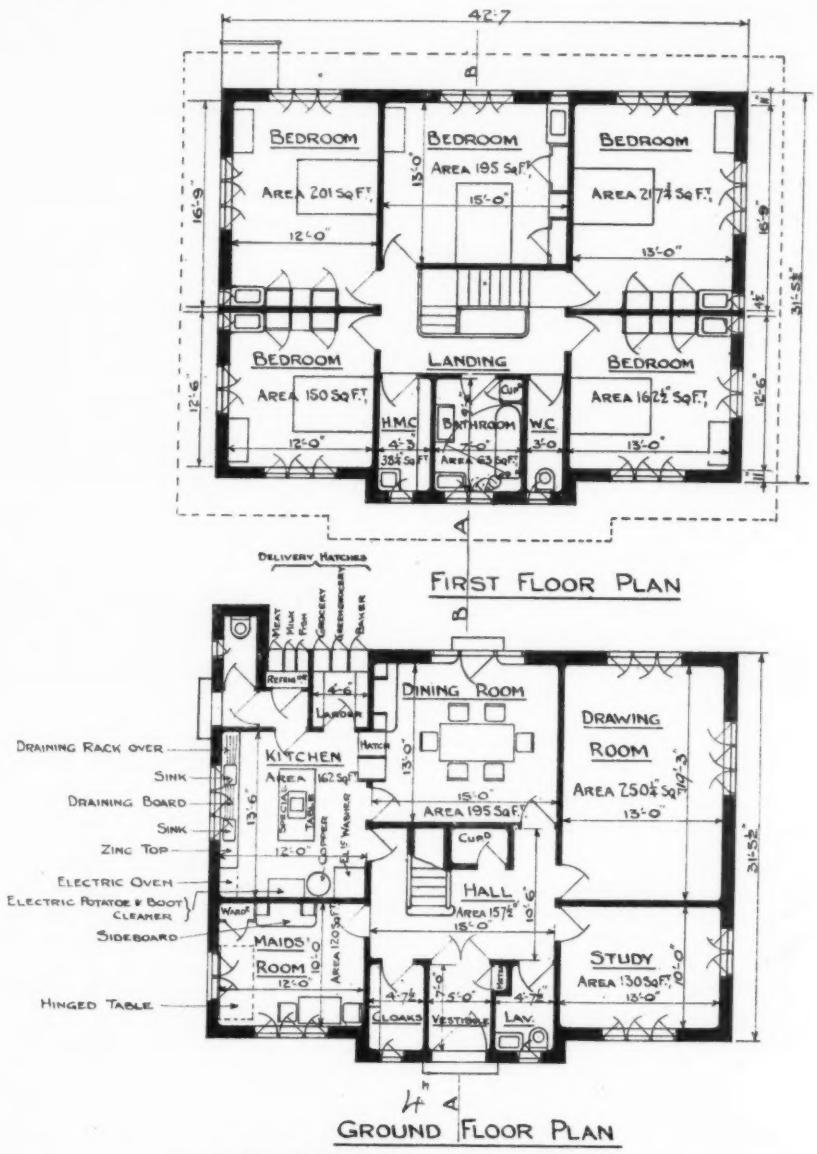
Anyone looking at the designs will not notice one of the chief difficulties in the design: that is, to get the platforms at the mast-head inside the cone and at the same time to get the passengers out of the lifts. My contention is that the award is wrong, or that the conditions are wrong; and that by the jury's own showing the prize has been won by someone designing a mooring mast capable of doing all that was asked for in the conditions in a sound and economical manner.

I should like to point out that as this award has been withheld many times some attempt should be made to write conditions for next year binding to competitors and jury alike, and if anyone is barred to say so.

T. H. DIMMOCK.

Blackpool.

[*** We publish Mr. Dimmock's plans sent in the competition, and without going into the merits of his criticisms we would point out that the lighting arrangements of his staircase would alone put him in an inferior position to the winning design.—ED.]



Labour-Saving House Competition.
DESIGN SUBMITTED BY MR. T. H. DIMMOCK.

Sanatorium for South Africa.

H.M. Senior Trade Commissioner at Johannesburg reports that a tuberculosis sanatorium is to be erected at Nelspoort, Cape Province. A start is to be made at once with the first portion of the institution, consisting of a receiving hospital, nurses' home, and quarters for resident doctors and staff. The scheme has been designed by the Public Works Department. The work included in the first part of the scheme is to cost about £53,000. United Kingdom manufacturers can obtain the name and address of the contractors carrying out the work on application to the Department of Overseas Trade, 35, Old Queen-street, S.W.1, quoting "7967/ED/PN."

HOUSING AND TOWN-PLANNING NOTES.

Cardiff Housing Scheme.

The Cardiff City Council has decided to make application to the Ministry of Health for permission to build 250 additional houses.

Aberbargoed Housing Scheme.

The successful tenderer for the erection of twenty-four houses at Aberbargoed has asked for permission to withdraw his tender because he had omitted to include one item in it. The Council has permitted the withdrawal, and decided to ask the consent of the Ministry of Health to building the houses by direct labour.

Town Planning.

The last of a series of six lectures upon "Town Planning" was given by Professor Adshead, M.A., F.R.I.B.A., at the College of Estate Management, on February 9, the subject on this occasion being the statutory powers upon which town development is based. Developments, he said, fell into three classes, viz., (*a*) Improvement of houses or groups of houses; (*b*) reconstruction of unhealthy areas; and (*c*) development of unbuilt land. The lecturer traced the history of legislation in regard to each of these from the passing of the Shaftesbury Acts of 1851, which dealt with lodging houses, to the Housing, Town-Planning, &c., Act of 1919. The principal provisions of the more important Acts were considered, after which the lecturer touched upon the procedure to be adopted in preparing town-planning schemes.

Land for a Road.

Mr. J. D. Wallis, Official Arbitrator, sitting at Bolton recently, heard a claim against the Westhoughton Urban District Council, concerning the Council's compulsory acquisition of 1,314 square yards of land for a new road.

On behalf of the claimant, Mr. W. J. Lomax, surveyor, submitted a valuation of £504, being £376 for severance, and £128 as the value of the land taken. An access offered by the Council was of no value to the claimant.

Mr. E. T. Taylor, District Valuer of the Inland Revenue, giving evidence for the Council, valued the land at £65, and said it was proposed to allow claimant a right of access from her adjoining land to the new road.

The Arbitrator has awarded that the acquiring authority is to pay the owner a sum of £100, and to pay the fees on the award. The owner is to pay £20 towards the costs of the acquiring authority.

Private Enterprise in Housing.

At the annual meeting of the Yorkshire Federation of Master Builders at Hull, last week, Sir Alfred Gelder said many millions of money had been spent by the State on housing during the past two or three years, but only 102,000 houses had been completed out of the 400,000 required. The system of erecting houses by public bodies had not been a success either in number or cost. In a scheme which he had submitted to the authorities he made a statement that private builders could and would be prepared to build, under a guarantee, 30,000 to 40,000 houses per annum for five years at a cost much less than that of the present corporate system. Private builders could build houses at least £100 cheaper than public bodies, for the reasons that: (1) They have all the necessary plant; (2) they are keener buyers of materials; (3) they are ever on the spot watching progress in working hours; (4) they can and do weed out lazy and incompetent workmen; (5) they have better chances of selling houses; (6) fewer establishment charges; (7) they are more adaptable to local requirements.

The London House Builders' Association.

The report for the year ended January 31, 1922, of the Council of the London House Builders' Association states that the recent decrease in the high cost of building has not yet brought prices down to an economic basis on pre-war values, nor is it possible that it can do so in view of the higher standard of costs in every direction. A permanently different standard of values in building from those of pre-war days will have to be accepted, and the whole scale of rents must be altered in accordance with the post-war position. When this is recognised by the people at large, we shall be approaching post-war normal conditions, and economic housing may be expected by the trade and the country. The Council protests against the prophecies of a further great slump in building costs so far as it is applicable to private enterprise; this policy, it is stated, is a continuation of the campaign that has misled the public into expectations of housing conditions which are against all economic laws. The promises of housing reformers have resulted in dissatisfaction on the part of the people who want housing accommodation, and who are bitterly disappointed at the failure of the idealists to carry out their promises. The people require houses to live in without delay, and these can only be built by the rehabilitation of private enterprise. The Council, in conjunction with the National Federation of House Builders, is putting forward proposals to the Government for the revival of the scheme for building for the local authorities on partly-developed land, which, it is anticipated, will result in a greater contribution to the solution of the housing question than any scheme which has yet been put forward. The outstanding requirement of the trade is stated to be greater financial facilities for purchasers of single houses and the development of the building society principle. There is a wide demand for a house by the person who has £100 to £200 of ready capital, and it is hoped that it will be possible during the coming year for members to supply this demand. To accomplish this, the strictest economy in all costs must be observed. The revised building regulations which the Ministry of Health has issued for use in connection with the Government housing schemes are more economical than the old regulations of the London Building Act, 1894, and the Association intends to oppose attempts to revert to old unnecessary regulations.

Housing in London.

The Medical Officer of Health and the Valuer of the London County Council have submitted to that body a report on the housing position in London, in the light of the Census taken in June last year. The report states that according to the census of 1921, the population of the administrative county of London was 4,483,249, a decrease of 38,436, or ·9 per cent., since the census of 1911, following a decrease of 14,582 in the previous decennial period. In the period 1911-1921, fourteen metropolitan boroughs showed a decrease of 129,868 persons, and fifteen boroughs an increase of 91,432 persons. In seven boroughs in which during the period 1901-11 the population had been diminishing, there was an increase in 1911-21. This check to the centrifugal movement of population, it is suggested, is a natural result of the stoppage of building operations in the outer ring. In thirteen boroughs in which the settled tendency of the population has been downwards the diminution has continued, being greater in a few boroughs (Stepney, Bethnal Green and Bermondsey) than in the preceding ten years and less in the other central boroughs. The arrest of immigration as a result of the war no doubt accounts for some diminution in boroughs in which the ratio of alien population is high.

The report contains statistics showing the population and changes in the various districts in Greater London and the number of families in each district as compared with the number at the census of 1911. For the county of London the number of families in 1911 was 1,033,861 as compared with 1,144,269 in 1921, an increase of 110,408 or 10.7 per cent. This large increase in the number of families accounts for the pressure on housing accommodation, although the total population of the country has decreased, and the average size of the family must be considerably less than before, the number for 1921 being 3.918 as compared with 4.374 and 4.450 in 1911 and 1901 respectively. With the decrease in the size of the family there has been no decrease in the size of the tenement occupied, but rather a considerable increase in the amount of accommodation per person. From figures available for one to four-room tenements, it is found that between 1891 and 1911 there was an increase in the number of rooms per tenement from 2.33 to 2.57, or 10 per cent., and an increase in the number of rooms per person from .631 to .703, or 11 per cent. Figures are not yet available for the last decennial period, but it is probable that an increase of this tendency has been one of the results of the war. It is a common experience that families whose numbers have been reduced by deaths in the war often continue to occupy the same amount of accommodation, and the shortage of accommodation practically prevents the re-shifting of families into tenements of a more suitable size.

The census figures show the position to be the same as in 1919—that while the population of the county as a whole showed only a small decrease there was a considerable shifting from the central districts to the outlying parts. This is now, however, qualified by the large increase in the number of families. For this reason a decrease in population is not inconsistent with an increase in the shortage of houses even assuming that the amount of accommodation remains unaltered. It does not appear that there has been any considerable change due to demolitions since 1911 in London as a whole, although this has been the case in some of the central boroughs. The building that took place generally in the earlier years and later by the Government in Woolwich, as well as the provision of hutments, appears to have counterbalanced the amount of accommodation destroyed in the county. The shortage of houses is due to an increase in the demand rather than to a diminution in the amount of accommodation available.

Since 1919 practically no houses have been provided except by local authorities and public utility societies under the State-assisted scheme and by private enterprise with the aid of the Government subsidy. As regards London the number of houses comprised in tenders approved before October 1, 1921, including those of the Council and the City Corporation outside the county, is given as 12,750, of which 3,774 were completed, leaving 8,976 to be provided. The erection of an additional 1,679 houses by the Council has since been provisionally approved and more rapid progress is being made with the development of the larger estates now the preliminary difficulties with regard to roads, drainage, gas and water supply have been overcome; 868 houses have been completed by the Council during the past six months, the numbers for November, December and January being 195, 99 and 237 respectively, and the total up to January 25, 1,408. In Greater London the number of houses included in approved tenders is 35,157, of which 14,841 had been completed by October 1, 1921.

The report also summarises the position as regards unsuitable accommodation and overcrowding. It has not been possible to proceed with the clearance of insanitary areas, except the Tabard-street area, mainly owing to the shortage of houses. The conditions do not improve with the lapse of time, while the general pressure on housing accommodation results in the houses being fully occupied. With the decrease in the population and with the occupation of houses which were formerly empty it would seem that overcrowding should have diminished, and it is mentioned as an instance that in Stepney the decrease of over 30,000 in the population since 1911 is mainly in the most overcrowded parts of the borough. But this decrease is partly due to the arrest of immigration, which may be expected to be only a temporary factor. The shortage of houses, however, gravely limits the movement of families, which are or have become overcrowded, into tenements of suitable size, and the exact position as to overcrowding cannot be ascertained until further census returns are available.

THE BUILDING TRADE.

THE DEADLOCK IN THE BUILDING TRADE.

WE have received the following letter from Mr. Maurice Hulbert, A.R.I.B.A., of Ealing:—

SIR,—Though the plain facts to which I draw attention are fairly familiar, their restatement in your pages may do good in the present emergency. The great machine can only be set going again with the goodwill of all concerned, bearing steadily in mind that the consuming public, and not the employers, are the real masters, and that high wages and prices spell unemployment for the many, if prosperity for the few. The greatest productive industry in the London district—and an important one in all urban centres—is building, including all its allied trades, such as brickmaking, cement, &c.; these allied trades are numerous and widespread, from the slate quarrymen of North Wales, the ironfounders of the Midlands, to the cement workers of Kent.

Ordinary or normal building ceased with the war, and cannot recover under present conditions—result, labourers, semi-skilled and unskilled, in scores of thousands are unemployed, whilst on the other side we have an almost unlimited demand for new buildings, chiefly houses (overcrowding is getting worse every month), which it will take many years to satisfy. Now, building is a home industry, independent of foreign markets and exchanges. Only timber and a few small items, together not more than 10 per cent. of the whole, come from overseas. This great industry is in the hands of its various trade branches. Why, then, this effective deadlock? In the past three years nearly all the building done has been of an emergency or special type. This includes a not inconsiderable, though very insufficient, number of council houses erected at an uneconomic cost which will be a burden on the community for many years. (See Geddes' Report.)

Our object must be gradually to restore normal activity, and something more, to the trade, and thereby very materially to reduce unemployment. With this end in view it would be possible to double, treble, and even quadruple the present output in the next two or three years with the combined action of all the crafts concerned, from the architects to the General Labourers' Union, and the cost of building can be got down to a reasonable figure, namely, about 50 per cent. over pre-war.

One other condition will be necessary: we must increase by some form of after-war apprenticeship—it has been called "dilution," but the term does not matter—the number of craftsmen of which there is still a great shortage, especially in some trades. For instance, plasterers are scarce even with the present very restricted output; for an ordinary output three times the number will be required at least. Bricklayers might well be doubled, and the other crafts much increased.

Now I come to the most delicate subject of wages, but it must be faced and dealt with candidly. The present figures are from 100 to 150 per cent. above pre-war. Under them ordinary buildings cannot proceed. They must come down to about 50 per cent. above pre-war. The cost of living may be expected to have fallen to that figure before the end of the year. This means (London District), 1s. 6d. per hour for the craftsman, and 1s. to 1s. 3d. per hour for the unskilled and semi-skilled, the same proportionate reduction being applied to all the material trades. High wages with reduced hours and output are the chief causes of the inflated prices of bricks, cement, &c.

Under a progressive scheme of reconstruction, which is an after-war necessity, many trade-union rules will have to be put aside. Hours will have to be as long as practicable instead of as short as possible, and piece-work recognised under agreed limits. The unions must take a far wider outlook, and, instead of working each for its own members, must do their best for the large army of their fellows who are unorganised, and now so many of whom are wanting employment.

I may be asked, where does capital and the commercial side come in; what part are they to play in this reconstruction? I think you must allow them, under free competition, to find their level. Capital is largely fluid, and can, without due exercise of brains, be as easily lost as increased, and taking one time with another gets no excessive benefit. If, however, labour thinks it does, is suspicious or even envious, let it remember that under our graduated income-taxes the principle of equality of sacrifice is being carried out to a very great extent, and may be made to go still further.

I will now sum up:—

(1) Building and allied trades form the largest directly-producing industry in London and district, and is an important one everywhere.

(2) It is a home industry, within our own control.

(3) There has been no revival since the war held it up, apart from special or emergency work.

(4) The demand for ordinary building, especially houses, is so great that it must take many years to supply.

(5) A revival would give employment to a much increased number of craftsmen and scores of thousands of unskilled.

(6) A necessary reduction of cost to about 50 per cent. above pre-war prices.

I am fully aware that such a valuable piece of reconstruction can only be brought about by the goodwill and co-operation of all concerned. The building 'bus is still in the post-war ditch, and will require strenuous efforts to retrieve and set going on up-to-date methods. Reconstruction necessitates extra production. An informal conference of all the interests involved could be called by the Royal Institute of British Architects, the Master Builders' Association, and the building trade unions, acting together. The present want of policy in letting things drift is destructive and inhuman.

THE CLERKS OF WORKS' ASSOCIATION.

ANNUAL DINNER.

UNDER the genial chairmanship of Mr. William Woodward, F.R.I.B.A., members of the Incorporated Clerks of Works' Association and their guests, numbering upwards of two-hundred, spent a very pleasant evening at the Holborn Restaurant on Saturday evening last, on the occasion of the thirty-eighth annual dinner of the Association.

Mr. G. W. Ramplin, proposing the toast of "The Architects," enlarged on the fact that many large contracts were at present held up owing to high costs, restrictive by-laws, &c.

In responding, Mr. A. W. S. Cross (Vice-President, R.I.B.A.) expressed the hope that the troubles which had beset the architectural profession in recent years would soon be a thing of the past. He thought the success of the industry depended to a large extent on all sections working hand in hand, and pointed out what a large voice in the affairs of the nation the building and allied industries would have if they could speak with one voice.

Sir John Burnet, A.R.A., also responded, and said that architecture had the virtue that it was not the work of one man but the result of the co-operation of innumerable men to produce beauty. Beauty could not be obtained without proficiency on the part of each man who had a hand in the work, and he looked to the time when individual proficiency would produce better work. The demand for good work was better to-day than ever before, as also were the means available to carry out the demands of the architect, and there was no reason why work of to-day should not be as marvellous for its time as the works of the past.

Replying to the toast of "The Surveyors" (proposed by Mr. A. J. Dorry), Mr. R. I. Tasker, L.C.C., said he thought the clerk of works was the greatest friend a young surveyor could have, because there was so much to be learned from men who had the amount of practical experience which the clerk of works had.

"The Worshipful Company of Carpenters" was proposed by Mr. R. H. Henley, who outlined the work the Company was doing in the training of youths to be competent craftsmen in the various branches of the building industry.

Mr. A. C. Preston (Past-Master of the Carpenters' Company), in response, said the Company was endeavouring to do what it could in the direction of imparting technical instruction to youths in the building crafts. The Company was bearing the heaviest expense in connection with the training schools at Great Titchfield-street, but he was convinced that in that manner the funds at the disposal of the Company were being expended to the very best advantage.

The toast of "The Builders" was proposed by Mr. C. N. Denny, and responded to by Mr. F. A. Minter, who said he thought builders should always be pleased to see a clerk of works on contracts on which they were engaged; if the two worked loyally together, with the full confidence of the architect, it would be to the advantage of everyone concerned, especially the client.

The toast of the evening, "The Association," was proposed by the Chairman, who emphasised the value of organisation. In expressing his good wishes for the future prosperity of the Association, he said that architects in need of the services of a clerk of works invariably applied to the Association.

Mr. Ernest Schofield (President) responded, and gave a résumé of the objects of the Association, which were mainly the advancement of the knowledge of the members and to provide opportunities for social intercourse among a body of men who did not come much into contact with one another in the course of their duties. He mentioned that a benevolent fund had now been started, which would do something to help the members in sickness, unemployment, and old age.

Other toasts were "The Chairman" (proposed by Mr. H. W. Page and responded to by Mr. Woodward); "The Press" (proposed by Mr. P. J. Luxton and responded to by Mr. H. Childe (Assistant Editor of *The Builder*); and "The Visitors" (proposed by Mr. F. O. Combridge and responded to by Mr. William Peet).

Among the donations received to the Benevolent Fund were the following:—Mr. Wm. Woodward, £10 10s.; Sir John J. Burnet, £10 10s.; Messrs. F. G. Minter, £10 10s.; E. G. Price (B. Goodman), £5 5s.; E. C. P. Monson, £5 5s.; G. W. Nash (Hall, Bedall & Co.), £5 5s.; Holland & Hannen and Cubitts, Ltd., £5 5s.; Wm. Harland & Son, £3 3s.; W. Arlidge, £3 3s.; Bell's United Asbestos Co., Ltd., £3 3s.; Burn Bros., £2 2s.; Carter & Co. (London), Ltd., £2 2s.; Thos. Elsey, Ltd., £2 2s.; French Asphalte Co., Ltd., £2 2s.; Plaster Decoration Co., Ltd., £2 2s.; Medway's Safety Lift Co., Ltd., £2 2s.; H. C. Parker & Coles, £2 2s.; R. Welch, £1 1s.; Chatwood Safe Co., Ltd., £1 1s.; Essex & Co., Ltd., £1 1s.; Jas. Gibbons, Ltd., £1 1s.; W. W. Howard, Bros. & Co., £1 1s.; W. F. Pepper (E. G. Walters & Co.), £1 1s.

The New County Hall.

In the list of sub-contractors for the new County Hall given in our last issue the name of Messrs. T. Whitehead & Sons, Ltd., of Kennington, who executed and fixed a quantity of polished limestone work in the entrance halls, was omitted.

THE CRISIS IN THE BUILDING INDUSTRY.

WHAT IS THE REAL CAUSE?

BY S. STRANKS (*Organiser, Amalgamated Union of Building Trade Workers*).

In common with others in the building industry I have been taking a keen interest in the deliberations of the federated builders and the operatives on the questions of wages and hours, and my reason for again taking advantage of your columns is in consequence of the report of the annual meeting of the National Federation of Building Trades' Employers, as published in your issue for January 27. I have perused this report several times, and I am amazed at the misleading statements made and the inconsistencies displayed.

It was argued that the Wages and Conditions Council is a negotiating body, the inference being that its members are liable to a mandate, and that, therefore, individual judgment is dispensed with. This was not the intention of those who deliberated and framed the scheme. As a member of the committee selected to draw up this scheme I have a clear recollection of the discussion on this phase. I believe it is correct to state that Mr. Chessum and Mr. Nicholls were also members. It was never suggested by any member of the committee that the representatives should be armed with instructions from the separate constituent bodies; on the contrary, the principle of individual judgment being used was agreed with, on the understanding that in the event of disagreement it should be permissible for either the employers' or operatives' side to refer the points of difference to the rank and file. This is quite different from being armed with instructions prior to the deliberations of the Council. What surprises me is the inconsistency of those employers who at the present juncture favour delegate rather than representative powers, as I know in the past they supported the representative principle.

The method of referring matters of disagreement to the rank and file is a sound one, but in practice there would not be the need to apply it in every case that came before the Council, as in some cases the good sense of the members would eventually secure agreement. Personally I should think in the event of a disagreement in March on the question of the length of the working week the operatives' side would favourably consider the advisability of a ballot of the rank and file. In case of a ballot I have no doubt as to the result. The active members of the building trade unions are unanimously in favour of the 44-hour week. The statements of some of the federated builders as to the alleged desire of the operatives to work longer hours are on a par with the efforts of members of the present Government in their attempts to scare probable supporters of labour by screaming "Bolshevik." I suggest builders get down to business and dispense with such methods; whether they do so or not a ballot, if taken, would give them a shock; that is, if they really believe the statements referred to.

Is it too much to expect some of the federated builders to get down to facts? Are we and the public to be satisfied with mere statements minus an atom of evidence in support of them? Is it also asking too much of them to drop the presumptive attitude adopted? Are trade unionists to be dubbed "tyrants" simply because in the interests of the workers they seek agreements for their protection? Is it to be accepted that the employer, having unrestricted power, would prove himself in practice to be more sensible to the just claims of his employee? There are exceptions in all sections of society, but without regulation I should dread results.

What is the intention of builders and others when they emphasise the need for adjusting wages and hours of workmen to an economic level? What is the level they seek? The time has arrived for plain statements, backed up by reasons; mere platitudes about economic principles founded on the desire of capitalists and clever individuals out to depress the wages of the workman will not take us much farther. The workers of this country have recently suffered a reduction of wages amounting to £400,000,000 per annum, or about £7,000,000 per week, and the building operatives have borne their share in this connection. Is it a sound economic law which simply calls for millions of industrious people repeatedly to suffer reduction in wages? What is the significance of wages to the average workman, apart from the power to purchase the mere necessaries for physical existence? Is it a sound economic law which pursues the course of reducing his purchasing power to a level which debars him from giving proper sustenance to his physical being? Critics of labour talk and write of output—is the blind desire to depress wages the way to increase output? Will some of the federated builders give us the benefit of their views in this regard? Is it a sound economic principle which fails to grip the main economic value of wages in relation to the commercial well-being of a nation? It seems common sense to some that if the wages of the workers are unduly reduced the value of the circulation of that money is also reduced. This factor reacts upon the whole community; low wages mean less food, boots, clothes and other requisites and, therefore, less labour is required in the production of those goods. Seers of economics say economic chaos exists in this country, and that what is wanted is a reduction of wages. A readjustment of wages was inevitable after the war, I agree, but I am convinced that through reductions that are taking place we are adding to unemployment.

But in the opinion of many operatives it is felt (and with some reason) that the scheme of the Wages and Conditions Council projects a standard of sacrifice that no other interest in the building industry is asked to bear. The operatives' wages are governed by the cost of living, but there is no reference to the employers' profits or cost of living, and the operatives are asking, "Why should our conditions be stereotyped? Why should our desires be restricted when the employers' are not?" Is there a natural law in this, or is this what is meant by an economic level? Take the matter of the high cost of building—all through the speeches at the annual meeting of the National Federation there was not a word about profits, mismanagement, financial chaos, or particularly the high price of materials, due to the operations of trusts. Why?

I am bound to refer again to the 44-hour week controversy. Here we fail to trace any solid reason advanced by the employers for a revision of hours. It is untrue to state that the 44-hour week adds to the high cost of building to any great extent; the one outstanding fact is that output has steadily increased since the operation of the 44 hours, and no builder can deny this. At the same time this increased output is not solely due to reduction of hours, but also to that gradual return to normal conditions due to the falling off of trade. Again, I ask, in what direction does the 44 hours mean an increased cost of building operations to the extent inferred by the employers? Is not the opposition of some builders to the 44 hours on a par with the arguments in the past against all progressive claims? I have heard the end of building operations prophesied years ago when we asked for a penny increase on wages, at a time when wages were low. The end-of-the-world arguments on matters relating to workers' conditions have been advanced so many times as an excuse to keep them down that some of us are "taking it as read." But one fact of which we are cognisant is that there are at least some broad-minded employers who keep clear of the Mother Shipton atmosphere and face facts.

What I would suggest is that the builders give us the benefit of their experience of the economic effects of long hours in the past. It is only a few years ago that employers were generally wedded to systems of overtime—what was the effect of that system on costs? In spite of the opposition of employers the trade unions to a great extent broke down the overtime system, and in doing so reduced the cost of building. Will any employer claim that the overtime at present being worked is economically sound? Why do they not give their clients the benefit of their experience? The cost of building operations owing to overtime even to-day would be called a scandal if the true facts were known. In the management of building jobs there is a fine scope for the brains of builders to be utilised in reducing costs. The present loss in this direction is not due to the want of capacity of foremen and builders, but to the senseless time-limits placed on contracts, which handicap efficient management. Let the federated builders devote a little of their attention to educating the public on these matters.

But what perplexes me is the flagrant inconsistency of the federated builders. Prior to the Wages and Conditions Council scheme being brought into operation the main complaint was the need for employers and operatives coming together and evolving an agreement which would tend to stabilise the industry. This was a sound argument, and after a great deal of propaganda the operatives gradually concurred, with the result that the Wages and Conditions Council was formed. But, strange to say, in spite of its machinery, which gives stable expression on wages, the employers have pursued a course which is anything but encouraging stabilisation. Why this change? Some of us in particular have a right to an answer. Is it to be said they only wanted a curb placed upon us when economic power was in the hands of the worker, and then, so soon as signs of this power was receding through less employment, the employer began an aggressive movement on the operatives' conditions? There is every reason to believe this, and, if it is so, then we are in for a sorry time. Trade unions do not live for to-day alone; to-day the operative is keener and more susceptible to facts, and his attitude in the future will not be of the kind some imagine as a result of a temporary use of the arbitrary and savage economic power of any section of the community.

I ask, What is the cause of the crisis in the building trade? In the workers' ranks the view is prevalent that, as in other industries, the National Federation of Builders is a mere gramophone of the Federation of British Industries. To such an organisation existing and representing the capitalists of this country the operative takes no exception, but if his opinion of its designs is correct then the community can rest assured as to where the victory will ultimately lay; numbers are bound to tell, and the mass of organised democracy will quicken its pace to the final issue as its units become acquainted with the forces and intentions of those arrayed against them. That conflicting ideals and interests exist it is no use denying, but these should be fought out in a rational and tolerant manner. No one can prescribe the limits of progress, but to any one earnestly desiring ordered progress the signs of the times are depressing. The use of the bludgeon by the builders at the behests of the Federation of British Industries will not suffice. It is simply the desire of extremists in their ranks, who, like those in our own ranks, are obsessed with the idea of using the weapon of arbitrary force and are becoming absolutely regardless of its effects on human beings. This section has reverted for the time being to the employers. The trade union constitutionalist refuses to bow to the extremists in the ranks of labour, and certainly for the same reason will not bow to extremists in the employers' ranks. Hence the closing of the ranks of the building trade operatives to preserve the only thing gained, namely, the 44-hour week.

Calendar for 1922.

We have received from Messrs. C. Isler & Co., Ltd., artesian well engineers, of Bear-lane, Southwark-street, S.E.1, a large wall calendar for 1922.

NEW BUILDINGS IN LONDON.

EARLSFIELD.—A start has been made with the construction of the new storm relief sewer from Earlsfield to Tooting, for the London County Council. The total length of the sewer is 3½ miles, and a considerable portion of this is in tunnel. The contract time covers a period of two years, and the contractors for the work are Messrs. W. G. Tarrant, Ltd., Byfleet, Surrey.

LIMEHOUSE.—Further to the previous reports in this column in connection with the dock extensions and storage sheds for the Regent's Canal and Dock Co., it is understood that the contractors are now damming up the entrance to the old barge lock with a concrete wall and filling in with ballast. This part of the work is also being carried out by Sir W. G. Armstrong, Whitworth & Co., Ltd. The consulting engineer is Sir Robert Elliott-Cooper, K.C.B. The steelwork is being supplied by Messrs. Armstrongs & Main, Ltd., of Australia House, Strand.

TOTTENHAM.—Good progress is being made with the garden suburb on the London County Council White Hart-lane Estate—a site of about 70 acres lying between Lordship-lane and White Hart-lane. The contractors are Messrs. Fred. & T. Thorne, of Manchester-road, Isle of Dogs, E. 14. The plans, which have been prepared by the London County Council, provide for the erection of about 710 working-class dwellings and self-contained flats of three, four and five rooms. Brick construction is being employed throughout, with red-tiled roofs. Some houses will be finished in roughcast, others in red brick. It is understood 220 houses have now been completed, but only about 100 are occupied. Messrs. Crittall & Co., of Braintree, are supplying metal window sashes.

WOOD GREEN.—Building operations have commenced on the premises of Mr. F. Ferrier Tomlin, F.S.I., F.A.I., at 48–50, Station-road. The scheme consists of the conversion of existing old shops and dwelling houses into modern offices. The building, of three floors, has a frontage of 100 ft. with a return of 40 ft. The plans have been prepared and the work put in hand by Mr. Tomlin. Certain sections of the work will be let as sub-contracts. It is understood that at a later date it is proposed to demolish the old property at the rear of these premises and to erect thereon a modern factory having an area of 5,000 to 7,000 ft. super. No details of further progress with this scheme are yet available.

PUTNEY.—A block of twenty-three new shop premises, with living accommodation over, is now in course of erection on the Roehampton Estate, Upper Richmond-road. The builder is Mr. G. W. Beattie, of 189, Upper Richmond-road. Brick construction is being employed, the fronts being faced with purple stocks, and sand-faced tiles are being used for the roofs. The window frames and other fittings are being made by the builder. Further particulars and plans may be seen at the office of the builder, or from Messrs. H. W. Crosse & Co., Estate Agents, of 27–29, High-street. This will be the only portion of the estate on which shops will be erected, there being over 1,200 new houses to be erected in all, 600 of which are in course of erection by Mr. F. G. Minter, Ferry Works, High-street.

SHOREDITCH.—Considerable extensions are being made to Messrs. Perk's factory in Bethnal Green-road. The new building will have a front of about 40 ft. and a depth of 250 ft. The building will be of reinforced concrete with a steel frame, and a brick frontage to Bethnal Green-road. The architect is Mr. J. H. Storrar, of 9, Elm Park-road, N.21. The main contract is being carried out by Messrs. D. G. Somerville & Co., Ltd., of 120, Victoria-street, S.W.

HACKNEY.—A new one-floor building is being added to the Hackney Triangle branch of Messrs. Barclay's Bank, Ltd., on the corner of Mare-street and King Edward's-road. The architect is Mr. V. Bagnolini, of Sterling-road, Clapham-rise, S.W. The builder is Mr. H. C. Horswill, of 182, Green-street, Forest Gate, E.

RATES OF WAGES IN THE BUILDING TRADE.

The following are the rates of wages in the building trade in England and Wales. Every endeavour is made to ensure accuracy, but we cannot be responsible for errors that may occur:—

	Masons.	Bricklayers.	Carpenters, Joiners.	Plasterers	Slaters.	Plumbers.	Painters.	Masons' Bricklayers' Labourers.	Plasterers'
Aberdare	2/0	2/0	2/0	2/0	2/0	2/0	2/0	1/7	
Accrington	2/0	2/0	2/0	2/0	2/0	2/0	2/0	1/7	
Altrincham	2/0	2/0	2/0	2/0	2/0	2/0	2/0	1/7	
Ashton-under-Lyne	2/0	2/0	2/0	2/0	2/0	2/0	2/0	1/7	
Barnsley	2/0	2/0	2/0	2/0	2/0	2/0	2/0	1/7	
Barrow-in-Furness	2/0	2/0	2/0	2/0	2/0	2/0	2/0	1/7	
Barry	2/0	2/0	2/0	2/0	2/0	2/0	2/0	1/7	
Bath	1/9	1/9	1/9	1/9	1/9	1/9	1/9	1/4½	
Bedford	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½	
Birkenhead	2/2	2/2	2/2	2/2	2/2	2/2	2/2	1/9½	
Birmingham	2/0	2/0	2/0	2/0	2/0	2/0	2/0	1/7	
Bishop Auckland	2/0	2/0	2/0	2/0	2/0	2/0	2/0	1/7	
Blackburn	2/0	2/0	2/0	2/0	2/0	2/0	2/0	1/7	
Blackpool	2/0	2/0	2/0	2/0	2/0	2/0	2/0	1/7	
Bolton	2/0	2/0	2/0	2/0	2/0	2/0	2/0	1/7	
Bournemouth	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½	
Bradford	2/0	2/0	2/0	2/0	2/0	2/0	2/0	1/7	
Bridgwater	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2½	
Brighton	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½	
Bristol	2/0	2/0	2/0	2/0	2/0	2/0	2/0	1/7	
Burnley	2/0	2/0	2/0	2/0	2/0	2/0	2/0	1/7	
Burton-on-Trent	1/10½	1/10½	1/10½	1/10½	1/10½	1/10½	1/10½	1/5½	
Bury	2/0	2/0	2/0	2/0	2/0	2/0	2/0	1/7	
Cambridge	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½	
Cardiff	2/0	2/0	2/0	2/0	2/0	2/0	2/0	1/7	
Chatham	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/3	
Chelmsford	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½	
Cheltenham	1/9	1/9	1/9	1/9	1/9	1/9	1/9	1/4½	
Chester	2/0	2/0	2/0	2/0	2/0	2/0	2/0	1/7	
Chesterfield	2/0	2/0	2/0	2/0	2/0	2/0	2/0	1/7	
Colchester	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½	
Coventry	2/0	2/0	2/0	2/0	2/0	2/0	2/0	1/7	
Crewe	1/10½	1/10½	1/10½	1/10½	1/10½	1/10½	1/10½	1/5½	
Darlington	2/0	2/0	2/0	2/0	2/0	2/0	2/0	1/7	
Derby	2/0	2/0	2/0	2/0	2/0	2/0	2/0	1/7	
Doncaster	2/0	2/0	2/0	2/0	2/0	2/0	2/0	1/7	
Dudley	1/10½	1/10½	1/10½	1/10½	1/10½	1/10½	1/10½	1/5½	
Durham	2/0	2/0	2/0	2/0	2/0	2/0	2/0	1/7	
East Glam. and Mon. Valleys	2/0	2/0	2/0	2/0	2/0	2/0	2/0	1/7	
Exeter	1/8	1/8	1/8	1/8	1/8	1/8	1/7	1/3½	
Folkestone	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/3	
Gloucester	1/9	1/9	1/9	1/9	1/9	1/9	1/8	1/4½	
Grantham	1/10½	1/10½	1/10½	1/10½	1/10½	1/10½	1/10½	1/5½	
Grays	2/0	2/0	2/0	2/0	2/0	2/0½	1/11	1/7	
Grimsby	2/0	2/0	2/0	2/0	2/0	2/0	2/0	1/7	
Great Yarmouth	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/3	
Guildford	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½	
Halifax	2/0	2/0	2/0	2/0	2/0	2/0	2/0	1/7	
Harrogate	2/0	2/0	2/0	2/0	2/0	2/0	2/0	1/7	
Hartlepools	2/0	2/0	2/0	2/0	2/0	2/0	2/0	1/7	
Hastings	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/3	
Hereford	1/9	1/9	1/9	1/9	1/9	1/9	1/8	1/4½	
Huddersfield	2/0	2/0	2/0	2/0	2/0	2/0	2/0	1/7	
Hull	2/0	2/0	2/0	2/0	2/0	2/0	2/0	1/7	
Ipswich	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½	
Lancaster	2/0	2/0	2/0	2/0	2/0	2/0	2/0	1/7	
Leamington Spa	1/10½	1/10½	1/10½	1/10½	1/10½	1/10½	1/10½	1/5½	
Leeds	2/0	2/0	2/0	2/0	2/0	2/	2/0	1/7	
Leicester	2/0	2/0	2/0	2/0	2/0	2/0	2/0	1/7	
Lichfield	1/10½	1/10½	1/10½	1/10½	1/10½	1/10½	1/10½	1/5½	
Lincoln	2/0	2/0	2/0	2/0	2/0	2/0	2/0	1/7	
Liverpool	2/2	2/2	2/2	2/2	2/2	2/2	2/2	1/9½	
Llanelly	2/0	2/0	2/0	2/0	2/0	2/0	2/0	1/7	
London	2/0	2/0	2/0	2/0	2/0	2/0½	1/11	1/7	
Loughborough	2/0	2/0	2/0	2/0	2/0	2/0	2/0	1/7	
Luton	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½	
Maidstone	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/3	
Manchester	2/0	2/0	2/0	2/0	2/0	2/0	2/0	1/7	
Mansfield	2/0	2/0	2/0	2/0	2/0	2/0	2/0	1/7	
Merthyr Tydfil	2/0	2/0	2/0	2/0	2/0	2/0	2/0	1/7	
Middlesbrough	2/0	2/0	2/0	2/0	2/0	2/0	2/0	1/7	
Newcastle-on-Tyne	2/0	2/0	2/0	2/0	2/0	2/0	2/0	1/7	
Newport, Mon.	2/0	2/0	2/0	2/0	2/0	2/0	2/0	1/7	
Northampton	1/10½	1/10½	1/10½	1/10½	1/10½	1/10½	1/10½	1/5½	
Norwich	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½	
Nottingham	2/0	2/0	2/0	2/0	2/0	2/0	2/0	1/7	
Oakham	1/9	1/9	1/9	1/9	1/9	1/9	1/9	1/4½	
Oldham	2/0	2/0	2/0	2/0	2/0	2/0	2/0	1/7	
Oxford	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½	
Plymouth	1/10	1/10	1/10	1/10	1/10	1/10	1/9	1/5½	
Pontypridd	2/0	2/0	2/0	2/0	2/0	2/0	2/0	1/7	
Portsmouth	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½	
Preston	2/0	2/0	2/0	2/0	2/0	2/0	2/0	1/7	
Reading	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½	
Rochdale	2/0	2/0	2/0	2/0	2/0	2/0	2/0	1/7	
Rochester	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/3	
Rugby	1/10½	1/10½	1/10½	1/10½	1/10½	1/10½	1/10½	1/5½	
St. Albans	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½	
St. Helen's	2/0	2/0	2/0	2/0	2/0	2/0	2/0	1/7	
Scarborough	1/10½	1/10½	1/10½	1/10½	1/10½	1/10½	1/10½	1/5½	
Sheffield	2/0	2/0	2/0	2/0	2/0	2/0	2/0	1/7	
Shrewsbury	1/10½	1/10½	1/10½	1/10½	1/10½	1/10½	1/10½	1/5½	
Southampton	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½	
Southend-on-Sea	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½	
Southport	2/0	2/0	2/0	2/0	2/0	2/0	2/0	1/7	
South Shields	2/0	2/0	2/0	2/0	2/0	2/0	2/0	1/7	
Stockport	2/0	2/0	2/0	2/0	2/0	2/0	2/0	1/7	
Stockton-on-Tees	2/0	2/0	2/0	2/0	2/0	2/0	2/0	1/7	
Stoke-on-Trent	2/0	2/0	2/0	2/0	2/0	1/11	2/0	1/5½	
Stroud	1/8	1/8	1/8	1/8	1/8	1/8	1/7½	1/7	
Sunderland	2/0	2/0	2/0	2/0	2/0	2/0	2/0	1/7	
Swansea	2/0	2/0	2/0	2/0	2/0	2/0	2/0	1/3½	
Taunton	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½	
Torquay	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½	
Tunbridge Wells	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/7	
Wakefield	2/0	2/0	2/0	2/0	2/0	2/0	2/0	1/5½	
Walsall	1/10½	1/10½	1/10½	1/10½	1/10½	1/10½	1/10½	1/7	
Warrington	2/0	2/0	2/0	2/0	2/0	2/0	2/0	1/7	
West Bromwich	2/0	2/0	2/0	2/0	2/0	2/0	2/0	1/7	
Wigan	2/0	2/0	2/0	2/0	2/0	2/0	2/0	1/3½	
Windsor	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/7	
Wolverhampton	2/0	2/0	2/0	2/0	2/0	2/0	2/0	1/5½	
Worcester	1/10½	1/10½	1/10½	1/10½	1/10½	1/10½	1/10½	1/5½	
York	1/10½	1/10½	1/10½	1/10½	1/10½	1/10½	1/10½		

(For rates of wages in the Building Trade in Scotland, see page 319.)

CONTRACTS, COMPETITIONS, &c.

For some contracts still open, but not included in this List, see previous issues. Those with an asterisk are advertised in this number. Certain conditions beyond those given in the following information are imposed in some cases, such as that advertisers do not bind themselves to accept the lowest or any tender; that a fair wages clause shall be observed; that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender unless stated to the contrary.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in; the name and address at the end is the person from whom or place where quantities, forms of tender, &c., may be obtained.

BUILDING AND PAINTING.

FEBRUARY 27.—**Brighton.**—HOUSES.—Erection of alternatively 14, 18, or 32 houses on portion of the Queen's Park-road Housing site, for the T.C. Messrs. Clayton & Black; Messrs. T. Garrett & Son; Mr. E. Wallis Long; or Mr. W. H. Overton, architect, Brighton. Deposit £1.

FEBRUARY 27.—**Dunfermline.**—PAINTING, &C.—For painting and glazier work, for 22 houses. Burgh Engineer, City Chambers, Dunfermline.

✱FEBRUARY 27.—**Eastbourne.**—HOUSES.—Erection of 33 houses on the Old Town Site, for the Housing Committee of the Town Council of Eastbourne. Borough Engineer's Office, Town Hall, Eastbourne. Deposit £2 2s.

FEBRUARY 27.—**Neath.**—HOUSES.—Erection of 30 "B" Type houses on the Crythan Gark Site, for the T.C. Borough Engineer, Gwyn Hall, Neath.

FEBRUARY 27.—**Walton-on-Thames.**—REPAIRS.—For altering, repairing and decorating "Elm Grove," Hersham-road, for the U.D.C. Mr. R. Wilds, Surveyor, Council Offices, Walton-on-Thames.

FEBRUARY 28.—**Doncaster.**—OFFICES.—Erection of office buildings in Wood-street, for the T.C. Mr. R. E. Ford, Estates Surveyor, 3, Priory-place, Doncaster. Deposit £2 2s.

FEBRUARY 28.—**Glasgow.**—PAINTING.—For the painter work at Ruchill Hospital, for the T.C. Office of Public Works, City Chambers, 64, Cochrane-street, Glasgow.

FEBRUARY 28.—**Preston.**—PAINTING.—For painting, &c., at Public Hall, Lune-street, Preston. Borough Surveyor, Town Hall, Preston. Deposit, £1 1s.

FEBRUARY 28.—**Ramsgate.**—ALMSHOUSES.—Erection of 10 almshouses, for the T.C. Mr. E. Healey-architect, Turner-street, Ramsgate. Deposit £2 2s.

FEBRUARY 28.—**Rugby.**—ALTERATIONS.—For alterations, repairs, and painting at Benn Buildings, High-street, Rugby, for the U.D.C. Mr. J. H. Sharp, Surveyor, Benn Buildings, High-street, Rugby.

FEBRUARY 28.—**Stanley.**—HOUSES.—Erection of houses at Stanley, co. Durham, for H.M. Office of Works. Contracts Branch, H.M. Office of Works, King Charles-street, London, S.W. 1. Deposit, £1 1s.

MARCH 1.—**Cardiff.**—HOUSES.—Erection of a limited number of houses at Ely, for the T.C. Mr. E. J. Elford, City Architect, City Hall, Cardiff. Deposit £2 2s.

MARCH 1.—**Huddersfield.**—CONVERSION.—Conversion of existing building into banking premises, at Westgate, Huddersfield, for the Bank of Liverpool and Martin's, Ltd. Messrs. Walsh & Maddock, architects, 10, Harrison-road, Halifax.

MARCH 1.—**Keighley.**—EXTENSIONS.—For extensions to the Smallpox Hospital, Upper Heights, near Stanbury Haworth, for the Keighley and Rugby Joint Hospital Board. Mr. F. Atkinson, Old Bank Chambers, Bingley.

MARCH 1.—**London.**—REBUILDING.—For rebuilding and strengthening portions of boundary wall at Grove Hospital, Tooting Grove, Tooting Graveney, S.W.17, for the Metropolitan Asylums Board. Offices, Embankment, E.C.4. Deposit £1.

MARCH 1.—**Margate.**—PAINTING.—For painting at Princess Mary's Hospital, Margate, for the Metropolitan Asylums Board. Metropolitan Asylums Board, Embankment, E.C. 4. Deposit, £1.

MARCH 1.—**Milnsbridge.**—HOUSES.—Erection of four dwelling houses at Milnsbridge. Messrs. Dunn & Kaye, architects, Milnsbridge, Huddersfield.

MARCH 1.—**Paddington, W.1.**—BUILDING WORKS.—Extension of the existing main corridor and of other works at the Hospital, 285, Harrow-road, W.9, for the Guardians of the Poor of the Parish of Marylebone. Mr. P. Biddulph Hancock, Clerk to the Guardians, Guardians' Offices, 313-319, Harrow-road, W.9. Deposit, £3 3s.

MARCH 1.—**Stafford.**—PAINTING.—For painting, &c., at the Royal Baths, for the T.C. Mr. W. Plant, Borough Engineer, Borough Hall, Stafford.

MARCH 1.—**Wandsworth.**—ALTERATIONS, &C.—For small alterations and re-drainage at 38, St. Ann's-hill, Wandsworth, for the Board of Guardians. F. J. Curtis, Clerk, Union Offices, St. John's-hill, Wandsworth, S.W.18. Deposit £2.

MARCH 1.—**Wokingham.**—PAINTING.—For painting at Pinewood, Wokingham, Berks, for Metropolitan Asylums Board. Metropolitan Asylums Board, Embankment, E.C. 4. Deposit, £1.

MARCH 2.—**Holywell.**—RESERVOIR.—For erection of brick and concrete reservoir in connection with housing scheme at Greenfield, for the R.D.C. Mr. F. A. Roberts, architect, Earl Chambers, Mold.

MARCH 2.—**Huddersfield.**—BUNGALOW.—Erection of bungalow on main road between Honley and Meltham. Mr. J. Ainley, architect, 3, Chapel-hill, Huddersfield.

MARCH 2.—**Ipswich.**—INTERIOR DECORATIONS.—For interior decorations at St. John's Home Infirmary and part of main block and "Heathfields," part of centre and east blocks, for the Ipswich B.G. Mr. J. Sherman, architect, 9, Northgate-street, Ipswich.

MARCH 2.—**Mansfield.**—HOUSES.—Erection of houses, Type A, Booth-crescent, in the said Borough for the Borough Council on their Bull Farm site. Mr. Waude Thompson, Borough Engineer and Surveyor, Market-street, Mansfield. Deposit £1

MARCH 2.—**Ogmore.**—HOUSES.—Erection of 24 houses at Nantymoel, for the U.D.C. Mr. A. H. Jenkins, Housing and Town-Planning Surveyor, Council Offices, Brynmenyn. Deposit, £2 2s.

MARCH 2.—**Rolestown.**—REPAIRS.—For renovations and repairs to R.C. Church, Rolestown, Co. Dublin. Messrs. Wm. H. Byrne & Son, architects, 20, Suffolk-street, Dublin.

MARCH 3.—**Brierley Hill.**—ALTERATIONS.—Alterations at the Post Office, Brierley Hill, for the Commissioners of H.M. Office of Works. Contracts Branch, King Charles-street, London, S.W.1. Deposit £1 1s.

MARCH 3.—**Sandwich.**—SHEDDING.—Erection of shedding, offices, stands and other works, in connection with the agricultural show on July 26 and 27, for the East Kent Agricultural Society. Mr. S. Collard, secretary, Great Petty Bridge, Canterbury.

MARCH 4.—**Helston.**—HOSPITAL.—Erection of Helston and District Cottage Hospital. Mr. W. J. Johns, Hon. Secretary, Helston.

✱MARCH 4.—**Salop.**—CONCRETE CONSTRUCTION.—Erection of a new Council School of concrete construction at Macsbury, near Oswestry, for the Salop County Council. Mr. H. E. Wale, Secretary, County Buildings, Shrewsbury. Deposit £2 2s.

MARCH 5.—**Hull.**—HOUSES.—Erection of 74 houses on the West Hull Housing Site, for the T.C. City Architect's Department. Guildhall, Hull. Deposit £2 2s.

MARCH 6.—**Crayford.**—BUILDING, ROADS, SEWERS.—Building of 14 parlour type and 36 non-parlour type houses, including roads and sewers in connection with same, for the Crayford Urban District Council. Mr. Walter F. Bickford, Engineer and Surveyor, Council Offices, Crayford, Kent. Deposit £3 3s.

MARCH 6.—**Lanchester.**—CONVENIENCE.—Erection of public convenience, &c., at Burnhope, for the R.D.C. Mr. J. R. Lupton, surveyor, Lanchester, Durham.

MARCH 6.—**Manchester.**—LYCH GATE.—Erection of a stone lych gate at the entrance to St. Stephen's Churchyard, Audenshaw. Mr. W. Brooks, 136, Trafalgar-street, Ashton-under-Lyne. Deposit, 5s.

MARCH 7.—**Douglas.**—BRIDGE.—Erection of "Black Boards Bridge." Mr. Robert H. Cubbin, Secretary, 23, Athol-street, Douglas.

MARCH 7.—**Southend-on-Sea.**—CONVENIENCES AND SHELTERS.—Supply and erection of men's and women's conveniences at the Old Pier Head, and the supply and erection of shelters on the extension, for the County Borough. Mr. R. H. Dyer, Borough Engineer, Municipal Buildings, Southend-on-Sea. Deposit £2.

MARCH 8.—**Alfreton.**—PICTURE THEATRE.—For erection of a picture theatre at High-street, Alfreton. Mr. John Tomlinson, Victoria-street, South Normanton. Deposit, £3 3s.

✱MARCH 8.—**Kent.**—COTTAGES.—Erection of thirteen cottages (detached) at East Moor-street Farm, Rainham, Kent, for the County Council. Mr. W. H. Robinson, Architect, Sessions House, Maidstone. Deposit £5.

✱MARCH 9.—**London, S.E.**—ROOF LIGHTS.—For taking off old lantern lights over laundry and adjoining roofs, and fixing roof lights at the Southwark Hospital, East Dulwich Grove, for the Guardians of Southwark Union. The Steward of the Hospital. Deposit £1.

✱MARCH 10.—**Canterbury.**—HOUSES.—Erection and completion of 12 houses to be built in pairs on land situated in Mandeville-road, St. Dunstan's, Canterbury, for the County Borough Council. Mr. F. H. Dore, 25, Watling-street, Canterbury. Deposit £1 1s.

MARCH 10.—**Greenwich.**—HOUSING.—For erection of 80 houses on Charlton Housing Estate, for B.C. Town Clerk's Department, Town Hall, Greenwich. Deposit £2 2s.

MARCH 10.—**Hants.**—REPAIRS AND MATERIALS.—Works contracts from April 1, 1922, at various stations in the North Aldershot Royal Engineer District of the Aldershot Command. Royal Engineers' Office, Marlborough Lines, North Aldershot, Hants.

✱MARCH 11.—**Oldbury.**—HOUSES.—For the erection of 52 houses at Londonderry-lane in the adjoining U.D. of Oldbury, for the Corporation of Smethwick. Mr. Alex. Hosken, Borough Engineer, Smethwick. Deposit £1 1s.

MARCH 15.—**Heanor.**—HOUSES.—For erection of 10 houses at Plumptre Terrace site, Langley Mill, for the U.D.C. Mr. A. G. Wheeler, architect, Eastwood. Deposit, £1 1s.

MARCH 18.—**Gloucester.**—ALTERATIONS.—For alterations to the Nurses' Home, Russell-street, Gloucester, for Gloucester District Nursing Society. Messrs. Vale & Kingsford, surveyors, St. Aldate-street, Gloucester. Deposit, £2.

✱MARCH 21.—**Sydenham.**—CHIMNEY SHAFT.—Erection of a brick chimney shaft upon prepared foundations for dust destructor at Home Park Depot, for the Borough of Lewisham. Surveyors' Department, Town Hall, Catford, S.E.6.

✱MARCH 24.—**Hammersmith.**—HOUSES.—Alternative tenders for the erection from plans and specifications and without quantities, of 30 or 39 houses on the Wormholt Housing Estate, for the Metropolitan Borough Council. Mr. Leslie Gordon, Town Clerk, Town Hall, Hammersmith, W.6. Deposit £2 2s.

MARCH 29.—**London.**—POLISHING FLOORS.—For floor polishing at various London buildings, for H.M. Office of Works. Contracts Branch, H.M. Office of Works, King Charles-street, London, S.W.1.

NO DATE.—**Allerston.**—COTTAGES.—Erection of three pairs of semi-detached cottages and a single cottage at Allerston, Ebberston Station, N.E.R., for the North Riding C.C. Mr. H. F. Thornley, Clerk, County Hall, Northallerton.

NO DATE.—**Brixham.**—FARMHOUSE.—For erection of a farmhouse at Upton, Brixham, for Mr. C. Hellyer. Messrs. W. G. Couldrey & Son, architects, Paignton.

NO DATE.—**Brocastle.**—BUNGALOW.—For erection of bungalow at Brocastle. Messrs. Cook & Edwards, architects, 22, Dunraven-place, Bridgend.

NO DATE.—**Glasgow.**—WAR MEMORIAL.—Designs and estimates for war memorial (in stone). Form suggested, Celtic Cross. Mr. John Kyle, writer, 79, West Regent-street, Glasgow.

BUILDING TRADE WAGES IN SCOTLAND.*

THE following are the present rates of wages in the building trade in the principal towns of Scotland. Every endeavour is made to ensure accuracy, but we cannot be responsible for errors that may occur:—

	Masons.	Bricklayers.	Carpenters, Joiners.	Plasterers.	Slaters.	Plumbers.	Painters.	Masons' Labourers.	Bricklayers' Labourers.	Plasterers' Labourers.
Aberdeen	1/10½	1/10½	1/10½	1/10½	1/10½	1/10½	1/7	1/5½ to 1/6½		
Airdrie	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	—	1/7½		
Alexandria	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	—	1/7½		
Arbroath	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/5½		
Ayr	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	1/9	1/5½ to 1/6½		
Bathgate	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	1/9	1/5½ to 1/6½		
Blairgowrie	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	—	—		
Bo'ness	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/–	1/8		
Coatbridge	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	—	1/7½		
Dumbarton	2/0	2/0	2/0	2/0	2/0	2/0	1/9	1/7½		
Dumfries	1/10	1/10	1/10	1/10	1/10	1/11½	1/8	1/4½	1/4½	1/5½
Dundee	2,0	2/0	2/0	2/0	2/0	2/4	1/9	1/7		
Dunfermline	2/0½	2/0½	2/0	2/0	2/0½	2/0½	—	1/7½		
Duns	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/0		
Edinburgh	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	—	1/7½		
Falkirk	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	—	1/7½		
Fort William	1/10	1/10	1/10	1/10	1/10	1/10	1/10	1/2½		
Galashiels	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	—	—		
Glasgow	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/1	1/7½		
Greenock	2/0½	2/0½	2/0	2/0	2/0½	2/0	1/9	1/4½ to 1/7½		
Hamilton	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	1/9	1/7½		
Hawick	1/10½	1/10½	1/10½	1/10½	1/10½	1/10½	1/8	1/3½		
Helensburgh	2/0½	2/0½	2/0	2/0½	2/0½	2/0	1/9	1/7½		
Inverness	1/11½	—	‡	1/7	1/6½	1/9	1/6	1/0½		
Kilmarnock	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/1	1/7		
Kirkcaldy	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	—	1/6½		
Kirkwall	1/9	1/9	1/9	1/9	1/9	1/9	—	1/2		
Lanark	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	—	1/7		
Motherwell	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	—	1/7½		
Perth	2/0	2/0	2/0	2/0	2/0	2/0	1/9	1 6†		
Stirling	2/0	2/0	2/0	2/0	2/0	2/0	2/0½	1/7		
Stirlingshire (Eastern District)	2/0	2/0	2/0	2/0	2/0	2/0	1/9	1/7		
Wishaw	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	—	1/7½		

* The information given in this table is copyright. The rates of wages in the various towns in England and Wales are given on page 318.

† Under unemployment relief scheme, 11d.

NO DATE.—**Leeds.**—MEMORIAL ROOM.—For erection of memorial Room to U.M. Free Church, Tempest-road, Leeds. Messrs. Fred. Mitchell & Sons, Architects, 9, Upper Fountaine-street, Albion-street, Leeds.

NO DATE.—**Merthyr.**—WAITING ROOM.—For erection of lavatories and waiting room at the Electric Theatre, Merthyr. Manager, Electric Theatre, Merthyr.

NO DATE.—**Paisley.**—ROOFING.—Resheeting with asbestos cement sheets the roof of the West Coal Store at the gasworks. Mr. A. S. Nisbet, Corporation Gas Works, Blackstoun-road, Paisley.

NO DATE.—**Pontefract.**—REBUILDING.—For rebuilding the "Blackmoor Head" Inn, for the Leeds and Wakefield Brewery Co., Ltd. Messrs. Garside & Pennington, Architects, Pontefract, Deposit £2 2s.

NO DATE.—**Radcliffe-on-Trent.**—HOUSES.—For erection and completion of houses at Radcliffe-on-Trent, for Mr. C. S. Stokes. Messrs. Sands & Walker, Milton Chambers, Nottingham.

NO DATE.—**Strathaven.**—MART.—For erection of new mart adjoining Central Station, for Strathaven Auction Mart, Ltd. Mr. John Hamilton, Architect, Strathaven.

FURNITURE, MATERIALS, etc.

FEBRUARY 25.—**Dumfries.**—TIMBER.—Supply of home or foreign timber, to be used in the erection of the Highland and Agricultural Society's show, at Dumfries, on 18th to 21st July. Mr. J. Reid, 55, Bienheim-place, Aberdeen.

FEBRUARY 25.—**Huntingdon.**—ROAD MATERIALS.—Supply of broken stone, slag, and tar macadam to the C.C. Mr. H. Leete, County Surveyor, Walden House, Huntingdon.

FEBRUARY 25.—**Llandaff and Dinas Powis.**—ROAD MATERIALS.—Supply of road materials to the R.D.C. Mr. W. Farrow, 20, Park-place, Cardiff.

FEBRUARY 27.—**Bethnal Green.**—MATERIALS.—For execution of works and supply of road and other materials for 3 months, for the B.C. Mr. A. E. Darby, Borough Engineer, Town Hall, Cambridge-road, Bethnal Green, E.2.

FEBRUARY 27.—**Great Yarmouth.**—ROAD MATERIALS.—Supply of gravel and broken granite to the T.C. Mr. J. W. Cockrill, Borough Surveyor, Town Hall, Great Yarmouth.

FEBRUARY 27.—**Leeds.**—MATERIALS.—Supply of materials to the Tramways and Highways Department. Mr. J. B. Hamilton, General Manager, 1, Swinegate, Leeds.

FEBRUARY 27.—**Littlehampton.**—TARMACADAM.—Supply of about 360 tons of 2½ in., 1½ in., and ¾ in. tarmacadam to the U.D.C. Surveyor, Town Offices, Littlehampton.

FEBRUARY 27.—**Romford.**—TAR, &C.—For supply of tar, shingle and granite, for the U.D.C. Mr. F. G. Beaumont, Engineer, Council Offices, Market-place, Romford.

FEBRUARY 27.—**Southwell.**—ROAD MATERIAL.—For supply of road material for one year, for the R.D.C. Mr. Robert Morris, Highway Surveyor, Eastthorpe, Southwell.

FEBRUARY 27.—**Westminster.**—MATERIALS.—Supply of materials to the C.C. Mr. J. Hunt, Town Clerk, City Hall, Charing Cross-road, W.C. 2.

FEBRUARY 27.—**Whitefield.**—STORES.—Supply of road and other materials to the U.D.C. Mr. George M. Denton, Surveyor, Council Offices, Whitefield.

FEBRUARY 27.—**Woodford.**—MATERIALS, &C.—Supply of road materials and scavenging services, for the U.D.C. Mr. William Farrington, Surveyor, Council Offices, Woodford Green, Essex.

FEBRUARY 28.—**Belfast.**—STORES.—For supply of stores to the Tramways Department, for 6 or 12 months. General Manager, Tramways Department, Napier-street, Belfast.

FEBRUARY 28.—**Flaxton.**—ROAD MATERIALS.—Supply of whinstone and broken slag to the R.D.C. Surveyor, 5, Mille Crux-terrace Huntington, York.

FEBRUARY 28.—**Ilford.**—MATERIALS.—For supply of road and other materials for 6 or 12 months, for the U.D.C. Mr. H. Shaw, Engineer, Town Hall, Ilford.

FEBRUARY 28.—**Leeds.**—PAINTS.—For supply of paints and oils for one month for B.G. James H. Ford, Clerk, Poor Law Offices, South Parade, Leeds.

FEBRUARY 28.—**Lewisham.**—MATERIALS.—For supply of road and other materials for 6 months, for the B.C. Surveyor's Department, Town Hall, Catford, S.E.

FEBRUARY 28.—**Leyton.**—MATERIALS.—For supply of lime, oils, &c., for the U.D.C. Surveyor, Town Hall, Leyton, E.10.

FEBRUARY 28.—**London.**—LAMPS, &C.—For supply of (1) Lamps and fittings, (2) firebricks and fireclay, (3) station bells, bibcocks, &c., for the Great Indian Peninsula Railway Co. Mr. R. H. Walpole, Secretary, 48, Copthall-avenue, E.C.2. Charges, (1) 2s. 6d., (2) 7s. 6d., (3) 2s. 6d.

FEBRUARY 28.—**Ryde.**—TAR.—Supply of refined tar and other material for road surface treatment to the U.D.C. Mr. T. J. Fawdry, Town Clerk, Ryde.

FEBRUARY 28.—**Salford.**—TAR MACADAM.—For supply and delivery of tar macadam, for T.C. Borough Engineer, Town Hall, Salford.

MARCH 1.—**Caistor.**—MATERIALS.—Supply to the R.D.C. of granite, slag, tar macadam, and distilled tar. Surveyor, Council Offices, Caistor, Lincolnshire.

MARCH 1.—**East Ham.**—MATERIALS.—Supply of materials to the B.C. Mr. C. E. Wilson, Town Clerk, Town Hall, East Ham, E.

MARCH 1.—**Lancashire.**—GRANITE SETTS.—For supply of 10,800 tons of 4 in. by 5 in. granite setts, for the C.C. Mr. W. H. Schofield, County Surveyor, County Offices, Preston.

MARCH 1.—**London.**—TOOLS, &C.—For supply and delivery of carpenter's tools, files, handles, for East Indian Railway. Mr. G. E. Lillie, Secretary, Nicholas-lane, E.C.4. Charge £1 1s.

MARCH 1.—**Melford.**—MATERIALS.—Supply of road material, to the R.D.C. Mr. R. A. Newstead, Surveyor, 7, Gainsborough-street, Sudbury, Suffolk.

MARCH 1.—**Southwark.**—MATERIALS.—Supply of materials to the B.C. Mr. P. H. Gray, Town Clerk, Town Hall, Walworth-road, S.E. 17.

MARCH 1.—**Warminster.**—MATERIALS.—Supply to the R.D.C. of limestone, tar and oil. Mr. R. M. Lapham, Surveyor, Council Offices, Warminster.

MARCH 3.—**Gillingham.**—MATERIALS.—For supply of road and other materials for one year, for the T.C. Mr. J. L. Redfern, Borough Engineer, Council Offices, Gillingham, Kent.

3.—**Hambledon.**—ROAD MATERIALS.—For road and other materials for one year, for [illegible]. S. B. Hasell, Surveyor's Office, Bramley, [illegible]ford.

MARCH 3.—**London.**—SAND.—For supply of sand and ballast in various districts for 6 and 12 months, for the Metropolitan Water Board. Chief Engineer, Metropolitan Water Board, New River Head, 173, Rosebery-avenue, E.C.1.

MARCH 3.—**Sedgefield.**—MATERIALS.—Supply of materials, &c., to the R.D.C. Mr. W. R. Plews, Highway Surveyor, 1, South View, Ferryhill.

MARCH 4.—**Goole.**—ROAD MATERIAL.—Supply of road materials to the R.D.C. Mr. R. Plewes, Surveyor, 4, Belgravia, Goole.

MARCH 4.—**Nuneaton.**—GRANITE.—For supply of broken granite for one year, for the Bulkington U.D.C. Mr. C. Blakeway, Clerk, 2, Church-street, Nuneaton.

MARCH 4.—**Pontardawe.**—MATERIALS.—For supply of road and other materials for one year, for R.D.C. Mr. B. I. Phillips, Engineer, Council Offices, Holly-street, Pontardawe.

MARCH 4.—**St. Thomas.**—MATERIALS.—Supply of road materials to the R.D.C. Mr. J. S. Madge, Surveyor, Brooklands, Heavitree, Exeter.

MARCH 4.—**Southend.**—MATERIALS.—For supply of road and other materials for one year, for T.C. Mr. R. H. Dyer, Borough Engineer, Southend-on-Sea.

MARCH 4.—**Stafford.**—GRANITE.—For supply of granite and slag, for one year, for R.D.C. Mr. W. Blackshaw, 3, Crabbery-street, Stafford.

MARCH 6.—**Billericay.**—MATERIALS.—Supply of road materials to the R.D.C. Mr. F. E. Ennals, Surveyor, Sheeley-road, Hutton, Essex.

MARCH 6.—**Morley.**—MATERIALS.—Supply of highway materials to the T.C. Mr. F. Turner, Borough Engineer, Town Hall, Morley.

MARCH 6.—**Stoke-on-Trent.**—MATERIALS.—Supply of road and other materials to the T.C. Borough Surveyor, Town Hall, Stoke.

MARCH 7.—**Derby.**—MATERIALS.—Supply of road and other materials to the T.C. Mr. C. A. Clews, Borough Surveyor, Babington-lane, Derby.

MARCH 8.—**London.**—ROAD MATERIALS.—For the supply and delivery of road materials (granite, gravel and ragstone) to the Royal Parks, for the Commissioners of H.M. Works, &c. Contracts Branch, H.M. Office of Works, King Charles-street, London, S.W.1.

MARCH 8.—**Macclesfield.**—SUPPLIES.—Supply of paints, &c., glass and electrical goods to the Cheshire County Mental Hospital. Mr. W. G. F. Tingay, clerk, Hospital, Parkside, Macclesfield.

MARCH 11.—**Bingham.**—ROAD MATERIALS.—Supply of road materials to the R.D.C. Mr. J. W. Mason, Clerk, Bingham.

MARCH 11.—**Midlothian.**—TAR.—For supply of coal tar, tar pitch, &c., for one year, for C.C. Road Office, County Buildings, Edinburgh.

MARCH 13.—**Doncaster.**—MATERIALS.—Supply of dross, granite and tar to the R.D.C. Mr. W. R. Crabtree, Highway Surveyor, Nether Hall, Doncaster.

MARCH 13.—**Uckfield.**—MATERIALS.—Supply of road materials to the R.D.C. Capt. E. W. Ray-Johnson, Surveyor, Buxted, Sussex.

MARCH 15.—**Blackwell.**—ROAD MATERIALS.—For supply of road materials for one year, for the R.D.C. Mr. H. Silcock, Surveyor, 67, Westgate, Mansfield.

MARCH 15.—**Hampstead.**—MATERIALS.—Supply of electrical engineer's stores to the B.C. Mr. A. P. Johnson, Town Clerk, Town Hall, Haverstock-hill, N.W.

MARCH 18.—**Egypt.**—STORES.—Supply of stores to the Ministry of Interior, Egypt. Department of Overseas Trade, 35, Old Queen-street, S.W.

MARCH 18.—**Hunslet.**—ROAD MATERIALS.—For supply of road materials for one year, for R.D.C. Mr. W. B. Pindar, Clerk, Leek-street, Hunslet, Leeds.

ENGINEERING, IRON AND STEEL.

FEBRUARY 26.—**Belgium.**—PORT.—Construction of fishing port at Ostend. Department of Overseas Trade, 35, Old Queen-street, S.W.

FEBRUARY 27.—**Liverpool.**—ELECTRICAL INSTALLATION.—For overhead electrical installation at the Olive Mount Institutions, Wavertree, for the Liverpool B.G. Mr. G. W. Coster, Parish Offices, Liverpool.

FEBRUARY 27.—**Newburn.**—FENCING.—For about 460 lin. yards of wrought iron palisading, together with several gates, for the U.D.C. Mr. Thomas Gregory, Surveyor, Council Offices, Newburn-on-Tyne.

FEBRUARY 27.—**St. Andrews.**—TENNIS COURTS.—Construction of three Blaes lawn tennis courts at Kinburn Grounds. Mr. Wm. Watson, Burgh Engineer, St. Andrews.

FEBRUARY 27.—**Salford.**—HEATING APPARATUS.—For supply and erection of hot-water heating apparatus at the Electricity Offices, for the T.C. Borough Electrical Engineer, Frederick-road, Salford.

FEBRUARY 27.—**Willenhall.**—FENCING.—Supply and erection of about 1,300 yards of wrought iron railings, 5 ft. high, with gates complete, for the U.D.C. Mr. G. A. Waite, Surveyor, Town Hall, Willenhall.

FEBRUARY 28.—**London.**—MATERIALS.—Supply of mild steel plates and platelayers' steel beaters. Director-General, India Store Dept., Belvedere-road, Lambeth, S.E.

FEBRUARY 28.—**Woking.**—ROLLER.—Supply to the U.D.C. of a 12-ton road roller with scarifier attachment. Mr. G. J. Woolridge, Surveyor, Council Offices, Woking.

MARCH 1.—**Costa Rica.**—WHARF.—Construction of reinforced concrete wharf for the Public Works Dept. of Overseas Trade, 35, Old Queen-street, S.W.

MARCH 1.—**King's Langley.**—OVEN.—Installation of a new steam-pipe peel oven at the Leavesden Mental Hospital, King's Langley, for the Metropolitan Asylums Board. Office of Board, Embankment, E.C.4. Deposit £1.

MARCH 1.—**London.**—ELECTRICAL INSTALLATION, &C.—(a) Installation of electric lighting and power, telephones, and fire alarms; (b) installation of a continuous drying machine at the Eastern Fever Hospital Extension, Homerton, for the Metropolitan Asylums Board. Office of the Board, Embankment, E.C.4. Deposit £1 each contract.

MARCH 3.—**Johannesburg.**—HEATING AND DRYING PLANT.—Supply and erection of combined power, heating and drying plant for abattoirs, for the Johannesburg T.C. Messrs. E. W. Carling & Co., agents, St. Dunstan's Buildings, St. Dunstan's Hill, London, E.C.3. Deposit £1 1s.

MARCH 6.—**London.**—GIRDER BRIDGES.—Supply to the Bengal-Nagpur Railway Company of both or either of the following:—(1) 5 deck span girder bridges, 100 ft. span complete; 4 deck span girder bridges, 100 ft. span complete. (2) 5 deck span girder bridges, 60 ft. span complete; 2 deck span girder bridges, 40 ft. span complete. Offices, 132, Gresham House, Old Broad-street, London, E.C.2. Charge £1 1s.

MARCH 6.—**Morecambe.**—SCREENING PLANT.—For supply and erection of screening, elevating and raking apparatus at Sewage Disposal Works, for T.C. Mr. Percival Holt, Borough Surveyor, Morecambe.

MARCH 6.—**South Africa.**—SHED.—Supply of whole of materials required for steel-framed building for new engine shed at Vryhard East, Natal. High Commissioner for Union of South Africa, Trafalgar-square, W.C.

MARCH 7.—**Bideford.**—GAS ENGINES.—For supply and erection of two suction gas engines driving two plunger pumps, for the U.D.C. Messrs. St. George-Moore and La Trobe-Bateman, 91, Victoria-street, London, S.W.1. Deposit £1.

MARCH 7.—**London.**—MATERIALS.—Supply of wheels, axles, and deck spans. Director-General, India Store Dept., Belvedere-road, Lambeth, S.E.

MARCH 8.—**Australia.**—TRANSFORMERS.—Supply of 35 cabin transformers for power signalling to the Victorian Railway Commissioners. Dept. of Overseas Trade, 35, Old Queen-street, S.W.

MARCH 11.—**Whitby.**—RESERVOIR.—Construction of covered service reservoir on Hennibique system of 500,000 gallons capacity, for the Whitby Waterworks Co. Messrs. Fairbank & Son, Engineers, Lendal Chambers, York. Deposit £2 2s.

MARCH 14.—**Manchester.**—VALVES.—For supply of 40 in. manual sluice valves and automatic stop valves, and 54 in. reflux valves, with air valves, gangways, and other ironworks, at Thirlmere Aqueduct, Fourth Pipe Line, for T.C. Secretary, Waterworks Offices, Town Hall, Manchester. Deposit £5 5s.

MARCH 15.—**Australia.**—TELEPHONE OPERATOR.—Supply of telephone protective apparatus to the Deputy Postmaster-General, Brisbane. Dept. of Overseas Trade, 35, Old Queen-street, S.W.

MARCH 16.—**Calcutta.**—WATERWORKS.—(I to VI) Supply and laying in a prepared trench of 30 miles of riveted steel pipe in the following sizes: 60 in., 54 in., 51 in., 48 in., 42 in., 36 in., and 33 in. Messrs. St. George-Moore & La Trobe-Bateman, 91, Victoria-street, Westminster, S.W.1. Deposit £5.

MARCH 17.—**Bristol.**—CRANES.—Construction of four 30-cwt. movable electric jib cranes and the erection of the same in front of shed "A" Avonmouth Docks. Mr. Thomas A. Peace, Engineer's Office, Avonmouth Docks. Deposit £3.

MARCH 20.—**Calcutta.**—TAR-SPRAYING MACHINE.—Supply to the Municipal Council of tar-spraying machine of 600 gall. capacity to be drawn by steam roller. Deputy Chairman, 5, Corporation-street, Calcutta.

MARCH 20.—**Edinburgh.**—ELECTRICAL PLANT.—For auxiliary plant and pipework for specification No. 14 at Portobello Station, for T.C. Sir Alexander B. W. Kennedy, 17, Victoria-street, Westminster, S.W.1. Deposit £2 2s.

MARCH 29.—**Australia.**—BORING MACHINE.—Supply of one double spindle boring machine, including tools, gears, and accessories, for Newport workshops, for the Victoria Railway Commissioners. Dept. of Overseas Trade, 35, Old Queen-street, S.W.

APRIL 10.—**Siam.**—RAILWAY ACCESSORIES.—Supply of accessories for goods rolling stock, to the Siam State Railways. Messrs. C. P. Sandberg, 40, Grosvenor-gardens, London, S.W.1. Charge £2.

JUNE 19.—**Argentina.**—BRIDGES.—Supply and erection of suspension bridges for local authorities. Dept. of Overseas Trade, 35, Old Queen-street, S.W.

OCTOBER 31.—**New South Wales.**—BRIDGE.—Construction of the superstructure and substructure of a cantilever bridge across Sydney Harbour from Dawes Point to Milson's Point, for the Government of New South Wales. Agent-General for New South Wales, Australia House, Strand, London, W.C.2.

ROAD, SANITARY, AND WATER WORKS.

FEBRUARY 25.—**Fifeshire.**—TAR-SPRAYING.—For tar-spraying and tar-grouting in Cupar District, for the C.C. Mr. W. Boyd, Surveyor's Office, 12, Crossgate, Cupar, Fife.

FEBRUARY 25.—**Royton.**—ROADS.—For work in connection with new arterial road, Royton to Manchester, within the district of Royton, for the U.D.C. Messrs. James Diggle & Son, engineers, 14, Brown-street, Manchester. Deposit £5.

FEBRUARY 27.—**Finchley.**—ROADS.—For making-up various private streets, for the U.D.C. Mr. P. T. Harrison, Engineer, Council Offices, Church End, Finchley, N.3. Deposit £3.

FEBRUARY 27.—**Kensington, W.8.**—CLINKER REMOVAL.—Quotations invited for the removal of rough clinker refuse for six or twelve months, commencing on April 1, 1922, for the Royal Borough Council of

Kensington, from their depot at Wood-lane, Shepherd's Bush, W. Mr. Wm. Chambers Leete, Town Clerk, Town Hall, Kensington, W.8., endorsed "Quotation for the Removal of Refuse."

FEBRUARY 27.—**Short Heath.**—SEWERAGE.—For construction of stoneware and cast-iron pipe sewers and manholes, for the U.D.C. Messrs. Dodd, Dodd & Watson, engineers, County Chambers, Corporation-street, Birmingham. Deposit £5.

FEBRUARY 27.—**Stoke-on-Trent.**—SANITARY.—Conversion of 155 privy cesspools at Fenton and Longton into water closets, for the T.C. Chief Inspector of Nuisances, St. Peter's Chambers, Glebe-street, Stoke-on-Trent.

FEBRUARY 28.—**Castle Ward.**—ROADS.—Supply of materials and maintenance of roads, for the R.D.C. Mr. David Hope, Surveyor, Ponteland.

FEBRUARY 28.—**Chingford.**—ROADS.—For making-up Haverill-road, part of Pretoria-road and Scholars-road, for the U.D.C. Mr. J. T. Griffin, Surveyor, Council Offices, Chingford. Deposit £2 2s.

FEBRUARY 28.—**Long Benton.**—WATER.—Laying 1,260 yards lin. of 9 to 6 in. pipes, from near Gosforth Laundry to Four Lane Ends, Benton Village. Mr. A. S. Dinning, 21, Ellison-place, Newcastle.

MARCH 1.—**Cudworth.**—SANITARY.—For conversion of privies into w.c.'s, for U.D.C. Mr. J. Shepherd, Surveyor, Council Offices, Cudworth.

MARCH 1.—**Llandaff.**—SEWERS.—For construction of 1¼ miles of iron and earthenware pipe sewers at Lisvane, for the Llandaff and Dinas Powis R.D.C. Mr. W. Farrow, engineer, 20, Park-place, Cardiff. Deposit £5

MARCH 4.—**Rotherham.**—SANITARY.—For conversion of 27 privies into water-closets at Treeton, for the R.D.C. Mr. C. O. Rawstron, Engineer, Imperial Buildings, Rotherham. Deposit £1 1s.

MARCH 6.—**Nunhead.**—ROADWORK.—For kerbing, channelling, tarpaving footways, and tar macadam roadwork, &c., in Lanbury-road, for the Borough of Camberwell. Mr. Frederick J. Slater, Borough Engineer, Town Hall, Camberwell, S.E.5.

MARCH 7.—**Newton Abbot.**—WATER MAINS.—For supply and laying two miles of 3 in. cast-iron water mains, for Islington Water Supply, for R.D.C. Mr. F. Horner, Clerk, Council Offices, 64, East-street, Newton Abbot. Deposit £2 2s.

MARCH 11.—**Yorkshire.**—ROADS.—Reconstruction of the main road from Queen-street, South Bank, to Normanby High-street, for the North Riding of Yorkshire C.C. County Surveyor, County Hall, Northallerton.

MARCH 13.—**Barnes.**—ROADS.—Making-up Gilpin-avenue, for the U.D.C. Mr. G. Bruce Tomes, Surveyor, Council House, High-street, Mortlake, S.W.

MARCH 13.—**Skegness.**—ROADS.—(1) Repaving Lumley-road; (2) brick and tile cartshed, for the U.D.C. Mr. R. H. Jenkins, Surveyor, Council Offices, Skegness.

Competitions.

(See Competition News, page 292.)

Auction Sales, Tenders, etc.

FEBRUARY 28.—**Hammersmith, W.6.**—Messrs. Green & Son will submit to auction (unless previously disposed of) at the Estate Sale Room, 72, King-street, W.6. the property known as Rutland Wharf, with vacant possession on completion, 80 ft. river frontage. Auctioneers, 72, King-street, Hammersmith, W.6.

FEBRUARY 28.—**London, E.C.**—Messrs. Fuller, Horsey & Co. will sell by order of the Port of London Authority in the Merchants' Hall, Baltic Exchange, St. Mary Axe, Contractor's Plant, including cranes, concrete mixers, &c., &c. Auctioneers, 11, Billiter-square, E.C. 3.

✱MARCH 1.—**Herne Hill, S.E.**—Messrs. Veryard & Yates, F.A.I., will sell without reserve building materials from demolition of "Bellevue." Auctioneers, 365, Norwood-road, S.E.27.

✱MARCH 1.—**London, E.C.**—Messrs. Fuller, Horsey, Sons & Cassell will sell, by order of the Port of London Authority, in the Merchants' Hall, Baltic Exchange, St. Mary Axe, London, E.C., three days' sale of the plant and machinery used in the construction of the King George V Dock. Auctioneers, 11, Billiter-square, E.C.3.

✱MARCH 2.—**Roehampton.**—Messrs. Veryard & Yates, F.A.I., will sell without reserve timber and building materials from demolition of "Clarence House," Priory-lane. Auctioneers, 365, Norwood-road, S.E.27.

Public Appointment.

✱MARCH 6.—**Pontefract.**—Clerk of Works required by the Pontefract R.D.C. in connection with a Housing Scheme for 500 houses. Geo. W. Holman, Clerk, 29, Ropergate, Pontefract.

THE PLUMBING TRADES' APPRENTICESHIP COUNCIL.

A MEETING of the Plumbing Trades' National Apprenticeship Council was held at 24, Old Queen-street, Westminster, on February 15, at 3 p.m., when there were present Mr. Lesser (in the chair), Messrs. Shea, Hoey, Sigsworth, Bew, Sharpe, Davies, Uttley, Hellyer, Cox, Searles-Wood, Millis, Porter, and Dr. Reg. S. Clay (Honorary Secretary).

A letter was read from Mr. John, Secretary of the Education Committee of the Joint Industrial Council for the Building Industry, stating that a special Sub-Committee would meet on March 9 to deal with the plumbers' apprenticeship scheme. It was pointed out in the discussion following, that if the plumbing scheme were run concurrently and independently of the Industrial Council scheme there might be confusion, and the result would not be so good as if the two bodies were able to come to an agreement, but the National Council should not wait for the agreement of the Joint Industrial Council before proceeding with its own scheme. The Sub-Committee of the Industrial Council was endeavouring to reconcile the differences, but meanwhile in the interests of the plumbing trade the Council should endeavour to develop its scheme on alternative lines. It was agreed that the Secretary should take the opinion of the Association of Technical Institutes, which was meeting on March 3 and 4, as to whether the assistance of principals of local technical institutions could be invoked for the purpose of promoting the formation of town committees to work the scheme in large towns. The representatives of the operatives pointed out that many towns were without technical institutes, and in these cases other arrangements would be necessary. They had not been able to issue precise instructions to their branch secretaries for the summoning of meetings pending the result of the conference of the Industrial Council. The opinion was expressed that it would be an advantage if these meetings could be called by an independent person rather than by an employer or an operative.

The Chairman recalled the possibility of ships' and chemical plumbers adopting the apprenticeship scheme in future and said it was therefore undesirable that the Council should be closely allied to the building scheme. If and when this occurred, the national scheme would no doubt require revision. It was finally agreed that whilst the National Council would continue to welcome co-operation with the Industrial Council it was under no obligation to wait until the agreement had been reached, and that it was advisable to proceed independently with its own scheme, utilising the technical institutes where possible.

The formation of local committees was further considered. It was suggested that if the members of the Association of Technical Institutions agreed to call meetings the Secretary should send them the name of any member of the Council who might be within reach so that he might have an opportunity of attending the meeting.

Mr. Davies said there ought to be a record of the committees set up, the classes formed, and the apprentices indentured under the scheme. At Leeds he had found a class in which there were 20 apprentices, and he had also inspected good classes at Cambridge and Middlesbrough. It was suggested that the operatives and the Institute should immediately agree to hold meetings in Newcastle, Liverpool, Cardiff, Manchester, Nottingham, Hull, and Middlesbrough, with a view to the formation of town committees to work the scheme.

Mr. Davies moved that a committee be appointed to consider the question of examinations to be held under the scheme. Mr. Hoey seconded. Mr. Davies pointed out that the City and Guilds Examination was for the Final Examination only and there had to be other examinations under the scheme. It was agreed that the sub-committee should consist of Messrs. Davies, Millis, Hoey, Sigsworth, Hellyer, Cox, and the Honorary Secretary.

The following were unanimously re-elected officers for 1922:—Mr. E. Lesser (Chairman), Mr. H. D. Searles-Wood (vice-Chairman), Dr. Reginald S. Clay (Honorary Secretary and Treasurer). The representatives of the operatives stated that Mr. Hoey, a retiring representative, had been re-elected for four years. The Institute of Plumbers' representatives stated that Mr. Hellyer had been similarly re-elected.

It was agreed that the June meeting should be held in Newcastle. It was left to the Chairman and Secretary to arrange for the other meetings.

COVENTRY ASSOCIATION OF BUILDING TRADES' EMPLOYERS.

THE annual meeting of the Coventry and District Association of Building Trades' Employers was held last week, when Mr. W. H. Jones, President, occupied the chair.

The following officers were re-elected for the current year; President, Mr. W. H. Jones; Vice-Presidents, Messrs. W. Ivens and William H. Penn; Hon. Secretary, Mr. William H. Penn; Hon. Treasurer, Mr. Henry Whiteman; Honorary Auditors, Messrs. T. Wormell and Alf. Clarke. The voting for the Committee resulted in the following members being elected: Messrs. W. Garlick, C. E. Harris, T. Hancox, J. Chambers, F. G. Plumb, A. F Matts, and J. G. Gray.

Votes of thanks were passed to the President, and the Honorary Secretary, for their services on behalf of the Association as representatives on the Midland and National Federations. Thanks were also accorded to the Honorary Treasurer and Honorary Auditors for their services during the past year. The Secretary (Mr. A. Collins) was complimented on his report and the way he had carried out his duties.

SHEFFIELD BUILDING TRADES' EMPLOYERS' ASSOCIATION.

The annual meeting of the Sheffield, Rotherham and District Building Trades' Employers' Association was held last week.

Mr. James Kelly, of Messrs. Wellerman Bros., Ltd., Sheffield, was elected President for the ensuing year. Mr. Kelly, returning thanks for his election, said the building trade was passing through a crisis at the present time, and he greatly feared things would not improve during the next few months. At present it was an uneconomic proposition for the private speculator or anyone else to undertake the building of houses for the reason that they could not be let at a rent that would justify the expenditure. He greatly feared, too, matters would not improve until conditions became more stabilished in the industry. The only way by which matters could be mended was by the reduction of costs, and the assurance of more stable conditions.

The outgoing president (Mr. E. H. Banks), in submitting the annual report, said the industrial problems of to-day were more baffling and difficult of solution than those with which the country was faced during the war. Then the difficulty was to find workmen. The difficulty to-day was to find work. The Association had recently convened a meeting of the whole of the building trade, including the masters and operatives, and as a result they had decided upon establishing in the Central Reference Library a technical section of books suitable for students in the building industry. That was the trade's memorial to those who had served in the war.

The following officers were elected:—Senior Vice-President, Mr. W. M. Beeden; Junior Vice-President, Mr. G. E. Marlow; Hon. Treasurer, Mr. W. H. Forsdike; Secretary, Mr. Tom Smith. The following were elected on the Committee:—Messrs. Saul, Hodkin, Waddington, Belton, Wise, Woodger, O'Neill, Randall, Gleeson, Taylor, Patchett, Ardern, and Malthouse.

The Belgian Cement Trade.

It is stated in the *Manchester Guardian* that the Association of Belgian Portland Cement Manufacturers has been dissolved. It is reported that seven cement works in the north of Belgium have formed an independent Association, the "Union des Cimenteries."

PROPOSED NEW BUILDINGS & OTHER WORKS.*

IN these lists care is taken to ensure the accuracy of the information given, but it may occasionally happen that, owing to building owners commencing work before plans are finally approved by the local authorities, "proposed" works at the time of publication have been actually commenced. Abbreviations:—T.C. for Town Council; U.D.C. for Urban District Council; R.D.C for Rural District Council; E.C. for Education Committee; B.G. for Board of Guardians; L.C.C. for London County Council; B.C. for Borough Council; and P.C. for Parish Council.

AYLESBURY.—Plans passed by T.C.: Additions to house, Madeley-road, for Mr. Ellis; motor shed, 6, Penn-road, for Mr. W. G. Brown.

AYR.—The T.C. has adopted the recommendations of the Board of Health that 20 to 24 of the 36 additional houses sanctioned at the Woodfield site should be of four apartments.

BARNSLEY.—Plans have been approved for the erection of two semi-detached villas in Bond-road. The architect is Mr. William Storrs, Straight-lane, Goldthorpe, near Rotherham.

BARNSLEY.—Repairs and alterations to the cooling tower at the electricity works are to be carried out at an estimated cost of £453.—Plans passed: Mr. William Storrs, two dwelling-houses, Bond-road; Mr. M. Bates, wooden garage, off Cliffe-lane, Monk Bretton; Mr. W. E. Parker, wooden shop, Barnsley-road, Stairfoot; Mr. R. E. Micklethwait, streets, Measbro' Dyke.

BEDFORD.—Plans passed by T.C.: Mr. E. H. Inskip, for Mr. C. Carter, addition, The Embankment; Mr. E. H. Inskip, for J. & W. Gower, workshop, Haynes-road; Mr. H. George, garage, 2, Tennyson-road; Messrs. Usher & Anthony, for Mr. G. Davidson, garage, De Parys-avenue; Mr. C. Negus, for Mr. F. O'Dell, alterations, 101, Tavistock-street; Mr. R. Jenkins for West End Club, additions, Ford End-road; Mr. J. P. White, Loggia, The Pyghtle, Bomham-road.

BELFAST.—Belfast Water Board propose to spend £8,000 on re-laying water mains at Ravenhill-avenue and Cambrai-street.

BOURNEMOUTH.—Plans passed by T.C.: Alterations and additions, 3, Beaumont-terrace, Poole-hill, for Mr. F. English; additions, rear of premises, The Arcade, for Messrs. Bright's Stores, Ltd.; alterations and additions, "The Fancy Fair," for Messrs. J. E. Beale, Ltd.; harness room, Withermoor-road, for Mr. Whitmarsh; house, Chessel-avenue, for Mr. A. Barnes; bay window, "Carrig," Cecil-avenue, for Mr. C. R. Beach; additions to house, Milton-road, for Messrs. W. Hoare & Sons; additions to house, Southbourne-road, for Mr. A. G. Alsford; outbuildings, Heathwood-road, for Messrs. Hawkins Bros.; house, St. Alban's-avenue, for Mr. G. F. Jordan; two pairs houses, Irving-road, for Messrs. H. B. & E. Mudge; house, Heathwood-road, for Mr. H. Moores; additions, 111, Old Christchurch-road, for Messrs. Rumsey & Rumsey; house, Roslin road, for Mrs. M. A. Stewart; house and shop, corner Stanfield & Withermoor-roads, for Mr H. Moores; motor house, "Westwood," Howard-road, for Mr. J. H. Bloomers; house, Soberton-road, for Mr. C. V. Miller; conversion into Conservative Club, 6, Alum Chine-road, for Mr. W. H. Rigden; house and garage, Grovely-avenue, for Mrs. A. Hopkins; house, Queens' Park West Drive, for Mrs. Sykes; house, corner Beechwood-avenue and Keswick-road, for Mr. J. Newbury; house, Grasmere-road, for Mr. J. Newbury; house, Iddesleigh-road, for Mr. A. L. Cox: alterations and additions, 10, Alma-road, for Mr. C. Williams; workshop and store, rear of 10, Alma-road, for Mr. C. Williams; bakehouse, &c., rear of 262, Christchurch-road, for Mr. E. Franks; store and workshop, rear of 264, Christchurch-road, for Mr. H. J. Calloway.

BRAZIL.—The Commercial Secretary to H.M. Legation at Rio de Janeiro states that £300,000 is to be expended on port improvements at Sao Francisco do Sul. No details have been received, but the Commercial Secretary suggests that firms interested should place themselves in communication immediately with the authority in charge of the work, whose address is: Exmo. Senr. Director de Viacase Obras Publicas do Estado de Santa Cattarina, Florianopolis, Brazil.

CHESTERFIELD.—Plans passed by T.C.: Steel chimney at Messrs. Plowright's works, Shepley-street, Brampton; alterations, &c., "Yellow Lion," Saltergate, for the Brampton Brewery Co., Ltd.; garage, 121, Newbold-road, for Mr. E. Green; aerated water factory and garage, Tontine-road, for Mr. J. Dent: garage, off Holywell-street, for Messrs. Eyre & Sons, Ltd.; additions and alterations to bank premises of National Provincial Bank, Ltd. (Sheffield Banking Co.), New-square; garage, 63 and 65, West Bars for Mr. F. Goodwin; motor garage, off Albert-street, Whittington Moor, for Mr. F. W. Williamson; urinal, Station Hotel, off Burnell-street, for the Chesterfield Brewery Co., Ltd.; slaughter-house and clamming-house, off Walton-road, for Mr. B. Unwin; rebuilding of Victoria Inn, Victoria-street, Brampton, for Messrs. Ind, Coope & Co., Ltd.

CHESTERFIELD.—Plans have been approved for additions and alterations to the cinema and billiard hall at Knifesmith-gate, Chesterfield, for Victoria Enterprises, Ltd.; the architect is Mr. W. C. Jackson, 29, Knifesmith-gate, Chesterfield. The plans include an assembly hall for dances, &c., and 10 lock-up shops.

CLEETHORPES.—The U.D.C. has decided to spend £20,000 on the construction of a bathing pool.

DARFIELD.—The Ministry of Health has sanctioned the borrowing by the U.D.C. of sums of £700 and £14,992 for the purchase of land and the erection of working-class dwellings. The Council has 24 houses in course of construction.

DUBLIN.—The Provisional Government, it is stated, contemplates the rebuilding of the General Post Office on the old site. The new building will be much larger than the one destroyed in 1916, as extensive sites in Henry-street and Prince's-street, including that of the old Coliseum Theatre, were purchased with a view to housing every department of the Post Office in one building. The new and extended site will have a frontage of about 350 ft. to Henry-street, a slightly less frontage to Prince's-street, with an area of one and a half acres.

DUNBAR.—The T.C. has decided to erect eight three-roomed houses and four four-roomed houses on the Belhaven-road, and, subject to the approval of the Board of Health, these will be proceeded with in the near future.

EAST HAM.—Plans passed by B.C.: Baker's oven, 387, Green-street, for Mr. W. Beattie; club room adjoining 213, Boundary-road, for Mr. W. E. Johnson.

EDINBURGH.—The Housing and Town-Planning Committee have decided to recommend that a piece of ground at the Granton-road end of the Wardie housing scheme should be offered for feuing purposes for the erection of shops and tenements.

FILEY—The U.D.C. has approved a draft scheme for the erection of a concert hall in the North Gardens.

FLEETWOOD.—Plans have been approved for bungalows at the Crescent for Mr. C. W. Masters and Mr. H. Fothergill. A plan of a store shed at Wyre Dock for the Fleetwood Dried Fish Co., Ltd., was approved.

GLASGOW.—The Libraries Committee has approved of plans for two new libraries, one for the Partick and the other for the Shettleston and Tollcross districts of the city, at probable costs of £17,000 and £15,000 respectively.

GREENOCK.—Some time ago the British Oil and Cake Mills secured ground at the James Watt Dock, Greenock, for the erection of an oil cake and seed crushing mill. A start was made with the construction of dock sheds, and good progress is being maintained. The company are now in a position to commence the main buildings, and the plans of the mill have been passed by the Dean of Guild Court.

HEMSWORTH.—At the last meeting of the R.D.C. plans were submitted by the Surveyor (Mr. W. T. Lynam) for extensions to the sewage works at South Elmsall, the cost of which was estimated at £12,000. The plan was approved, and it was decided to apply to the Ministry of Health for sanction to borrow the money required.

HEREFORD.—The Cathedral Close site for the Herefordshire County War Memorial has been abandoned in favour of the St. Peter's-square site, and the Executive Committee have decided to request Mr. Barnard, of Cheltenham, to prepare a design for a Queen Eleanor Cross.

HOVE.—Plans passed by T.C.: Mr. C. J. Kerridge, for Mr. J. R. Willocks, motor garage 200, New Church-road; Mr. G. Gardiner, conversion into flats, 21, First-avenue; Mr. A. Chadwell, for Dr. A. A. Hill, motor garage, 18, St. Aubyns; Messrs. Packham, Sons & Palmer, for Mr. A. E. Cannon, motor garage, 66, Wilbury-road; Messrs. J. Parsons & Sons, for Messrs. A. Flint, Ltd., extension to studio, 158, Church-road; Messrs. Carter, Paterson & Co., Ltd., lavatories, Cambridge-grove; Messrs. J. Barnes & Sons, for Mr. T. Harrington, motor garage, Avondale-road; Mr. A. W. Leney, for Mr. H. N. Goodwin, alterations, 31, Holland-mews; Messrs. F. Carwardine & Co., new shop front, 113, Western-road.

HINCKLEY.—Mr. F. Gregson Williams, of the Ministry of Health, has held an inquiry into the application of the U.D.C. for sanction to borrow £40,000 for additions at Hinckley Gas Works.

HUDDERSFIELD.—Plans have been approved for alterations and additions to the "Miners' Arms," Fartown, Huddersfield; the architects are Messrs. Joseph Berry & Sons, 3, Market-place, Huddersfield.

KIRKCALDY.—At Kirkcaldy (Fifeshire) a sea wall and esplanade are to be constructed at a cost of £120,000.

LEAMINGTON.—The Ministry of Health has sanctioned a loan of £10,904 for the construction of the new road from Warwick New-road at Leamington.

LEEDS.—Plans have been approved for additions and alterations to the Shadwell Industrial School, Leeds; the architect is the Educational Architect, Education Offices, Calverley-street, Leeds.

LONDON (BATTERSEA).—Drainage plans passed by B.C.: Mr. M. T. Saunders, for Watney, Combe, Reid & Co. at "Gardeners Arms" public-house, 113, Chatham-road; Harber & Sons, Ltd., at 158, Northcote-road; Mr. J. T. Johnstone, for the Anglo-American Oil Co., Ltd., at Victory Wharf Depot, Kirtling-street; Messrs. Hall, Beddall & Co., for the Rust Vitreous Mosaic Co., at 47, Church-road; Mr. F. H. Watts, for Naylors, Ltd., at 24A, Randall-street; Mr. J. A. Emes, at 156, Falcon-road.

LONDON (CLAPHAM).—Buildings, 42 & 44, Old Town, Mr. H. Branch for Mr. J. Perry.

LONDON (FINSBURY).—The Governors of St. Mark's Hospital, City-road, E.C., announce that the purchase of the site adjoining the hospital has been completed, and £10,000 is now needed to build a much-needed extension of the premises.

LONDON (FULHAM).—Church building, Stephendale road, Mr. T. H. B. Scott, for the Westminster Diocesan Authorities.

LONDON (HACKNEY).—Plans passed by B.C.: Petroleum storage depot, Waterden-road, for Messrs. G. Parker & Sons; roof over yard, 5 and 7, Sylvester-road, for Messrs. J. Hamilton & Son; sanitary works at 84, 86 and 88, Hertford-road, 59, 61 and 63, Stamford-road, and 1, 3, & 5, Tottenham-road, for Mr. T. Tritt.

LONDON (HAMMERSMITH).—The L.C.C. has sanctioned the borrowing of £59,357 by the B.C. for paving and repairing works.

LONDON (LEWISHAM).—Sanction has been given by the L.C.C. to the borrowing of £8,000 by the B.C. for the erection of a dust destructor.

LONDON (ST. MARYLEBONE).—The B.C. proposes to carry out paving works during the year at an estimated cost of £60,833.——Messrs. T. J. Harries & Co. propose rebuilding their premises at 252-260, Oxford-street.——The B.C. proposes expending £1,560 for converting the first-class swimming bath for use as a public hall during the winter.

LONDON (WESTMINSTER).—The architect to the C.C. has been instructed to prepare plans for alterations at the City Hall.

MANSFIELD.—Plans passed by T.C.: Mr. J. S. Charlesworth, sanitary accommodation, Pleasley Hill; Mr. Isaac Slack, jun., workshop, Newgate-lane; Mr. F. Johnson, workshop and stores, Sheepbridge-lane; The Mansfield Labour Club, conversion of premises into Labour Club, West Hill-drive; Mr. F. Johnson, alterations to three cottages, Sheepbridge-lane, Mr. W. Crowder, stable and cartshed, Hope-street; Mr. N. Durrell, bungalow, Southwell-road.

RUTHERGLEN.—The Board of Health has agreed to allow the local authority to proceed with the erection of 100 houses in addition to the 52 houses already approved.

STAINFORTH.—Plans have been prepared for the erection of a new bakery, Church-road, Stainforth, for Messrs. Atkinson Bros.; the architect is Mr. P. A. Hinchliffe, 14, Regent-street, Barnsley. Plans have been approved for the erection of a new billiard hall; the architects are Messrs. F. Hopkinson & Co., Bridge-street, Worksop.—Plans have been approved by the Thorne U.D.C. for the erection of new business premises, Church-road, Stainforth, for Mr. A. Vissey; the architect is Mr. P. A. Hinchliffe, F.R.I.B.A., 14, Regent-street, Barnsley.

STAIRFOOT.—Plans have been approved for the erection of new business premises in Barnsley-road, Stairfoot, near Barnsley; the architect is Mr. W. E. Parker, of Barnsley-road, Stairfoot.

SWANAGE.—Plan passed: Store, for Messrs. Parsons, Hayter & Sons.

SWANSEA.—Plans passed by T.C.: Bungalow, Gower-road, Killay, for Mr. F. Delve; bay window, Lan House, Trewyddfa-road, Morriston, for Mr. D. Gethin; alterations, main road, Mumbles, for the London City and Midland Bank; lock-up shop, North-Hill-road, for Mr. Leonard; alterations, 6, Walter-road, for the Star Tea Co., Ltd.; lock-up shop, North Hill-road, for Mr David Jones; alterations, "Delfryn," West Cross-lane, for Mr. J. P. Lovell; house and shop, Newton-road, Mumbles, for Messrs. W. and G. Beynon; bungalow, Newton-road, Mumbles, for Mrs. A. Marshall.

YARMOUTH.—Plans passed by T.C.: alterations to house, Malakoff-road, for Mr. J. A. Butler; drainage, Cliff-avenue and Victoria-road, Gorleston, for Gorleston Cliff Estate Co.; outhouses rear of Foulsham's Dining Rooms, Market-place, for Messrs. Lacon & Co.; shop front extension, Boreham-road, for Mr. W. Colby: mission hall, Cobholm, for the Primitive Methodist Trustees; extension to rear of garage, North market-road, for Mr. W. Harbord. Application is being made by the T.C. for sanction to a loan of £12,900, for the construction of a bathing pool.

YORK.—Plans have been approved for the erection of a new warehouse in Coney-street, York; the architects are Messrs. Crackett & Burns Dick, Pilgrim House, Newcastle-on-Tyne. Plans have been approved for the erection of a new garage in Hull-road, York; the architect is Mr. F. T. Penty, of Lendal, York.

WOLVERHAMPTON.—Plans passed by T.C.: Trustees Chillington Working Men's Club, working men's club (2 Army huts), Hickman-avenue; T. E. Lowe, motor shed, Larches-lane; Elizabeth Kirkham, bungalow, Park-avenue; Dr. J. A. Wolverson, motor shed, 6, Tettenhall-road; R. Drakeford, alterations and shop front, 92, Darlington-street; Simmonds Holloware Co., packing sheds, Charles-street; T. Charlesworth, motor shed, Newhampton-road; Shutt Bros., dwelling house, Hordern-road; Wolverhampton Victoria Hotel Co., Ltd., covered way, Victoria Hotel; Matthews, temporary workshop, 177, Wednesfield-road; C. F. Pougher, billiard-room, Albert-road; W. Stevens, motor-shed, Lonsdale-road; C. B. Davenport, Ltd., bathroom, &c., 41, Cardiff-street; J. Reynolds, motor shed, Norfolk-road; J. Cross & Sons, temporary stables; Ashland-street; and temporary workshop, Willenhall-road; Mrs. Hickman, new roof over stables, Old Mill-street; C. H. Barnett; drainage, Newbridge Crescent, W. Stevens, motor shed, 36, Compton-road; H. Haddock, motor shed, Wulfruna-street.

FIRES.

GLASGOW.—Damage estimated at £400 has been caused by an outbreak of fire, in the public-house of John Eadie at 12, Bridge-street.

HARWICH.—A fire has destroyed a block of business premises in Church-street. The premises involved were those of the Harwich, Dovercourt, and Parkeston Co-operative Society, and included their offices, boot shop, and stores.

HULL.—The printing works of Messrs. White & Farrell have been considerably damaged by fire.

PRESTON.—Damage estimated at £2,000 has been done by fire at a garage in Garstang-road North, Wesham, near Preston, owned by Messrs. Redman, taxi proprietors.

RASTRICK.—Damage estimated to amount to £5,000 has been caused by fire at the engineering works of Messrs. W. Bradley, Gooder-lane.

STEETON.—Damage amounting to between £300 and £400 was caused by a fire which occurred at St. Stephen's Church Sunday School.

SPALDING.—A total loss entailed by a fire which occurred on the farm occupied by Mr. George Frier, at Deeping St. Nicholas, near Spalding, is estimated at £1,200.

* **See also our List of Contracts, Competitions, etc**

PRICES CURRENT OF MATERIALS.*

[Owing to the exceptional circumstances which prevail at the present time, prices of materials should be confirmed by inquiry. Since our last issue several prices have been revised.—Ed.]

BRICKS, &c.

Per 1,000 Alongside, in River Thames up to London Bridge. £ s. d.

Best Stocks 4 13 0

Per 1000, Delivered at London Goods Stations.

	£ s. d.		£ s. d.
Flettons, at King's Cross	3 5 0	Best Blue Pressed Staffs.	10 11 6
Do. grooved for plaster	3 0	Do. Bullnose	11 1 6
Do. Bullnose	4 0	Blue Wire Cuts	8 11 6

Best Stourbridge Fire bricks:—
2½ in. .. .. 11 3 0 3 in. 13 2 0

GLAZED BRICKS—

Best White, Ivory, and Salt Glazed Stretchers	26 0 0	D'ble Str'tch'rs	34 10 0
		D'ble Headers	31 10 0
		One Side and two Ends	35 10 0
Headers	25 10 0	Two Sides and one End	36 10 0
Quoins, Bullnose and 4½ in. Flats	32 10 0	Splays and Squints	34 0 0

Second Quality, £1 per 1,000 less than best. Cream and buff, £2 extra over white. Other colours, Hard Glaze, £5 10s. extra over white.

	s. d.		
Thames Ballast	14 0	per yard,	delivered 2 miles radius Paddington:
Pit Sand	17 0	,, ,,	
Thames Sand	19 0	,, ,,	
Best Washed Sand	19 0	,, ,,	
½ in. Shingle for Ferro-Concrete	19 0	,, ,,	
¼ in. ,, ,,	20 0	,, ,,	

Per ton delivered in London area in full van loads.

Best Portland Cement. British Standard Specification Test ..... £ s. d. 3 10 6 .. £ s. d. 3 16 0

63/6 alongside at Vauxhall in 80-ton lots.

Ferrocrete per ton extra on above 10 0

NOTE.—The sacks are charged at 2s. 3d. each and credited at 2s. each if returned in good condition within three months, carriage paid.

Best Ground Blue Lias Lime 2 8 0 at rly. depot.

Grey Stone Lime 61s. 0d. per ton delivered in City and Central districts.

Stourbridge Fireclay in s'cks 37s. 8d. per ton at rly. dpt.

STONE.

BATH STONE—delivered in railway trucks at Westbourne Park, Paddington, G.W.R., or South Lambeth, G.W.R.. per ft. cube ..... s. d. 3 2½

Do. do. delivered in railway trucks at Nine Elms, L. & S.W.R.. per ft. cube 3 5½

Do. do. delivered on road wagons at Nine Elms Depot 3 6½

PORTLAND STONE—

Brown Whitbed, in random blocks of 20 ft. average, delivered in railway trucks at Nine Elms, L. & S.W.R., South Lambeth Station, G.W.R., and Westbourne Park, Paddington, G.W.R., per ft. cube 4 11½

Do. do. delivered on road wagons at above stations, per ft. cube.. ..... 5 0½

White basebed, 3d. per ft. cube extra.

NOTE.—½d. ft. cube extra for every foot over 20 ft. *average*, and ½d. beyond 30 ft.

YORK STONE, BLUE—*Robin Hood Quality.*

Delivered at any Goods Station London. s. d.

6 in. sawn two sides landings to sizes (under 30 ft. super.) ..... Per Ft. Super 7 4½

6 in. rubbed two sides, ditto ,, 8 0½

3 in. sawn two sides slabs (random sizes) ,, 3 3

2 in. to 2½ in. sawn one side slabs (random sizes) ..... ,, 2 1

1½ in. to 2 in. ditto, ditto ..... ,, 1 9

HARD YORK—

Delivered at any Goods Station London.

Scappled random blocks ..... Per Ft. Cube 8 0

6 in. sawn two sides landing to sizes (under 40ft. super.) ..... Per Ft. Super 7 0

6 in. sawn two sides ditto ..... ,, 8 0

4 in. sawn two sides slabs (random sizes) ,, 3 11

3 in. ditto, ditto ,, 3 1

2 in. self-faced random flags .. Per Yard Super 10 6

WOOD.

GOOD BUILDING DEAL.

Inches	£ s.	
4 × 11	36 0	per standard
4 × 9	35 0	,,
4 × 8	30 0	,,
4 × 7	30 0	,,
3 × 8	30 0	,,
3 × 7	25 0	,,
2½ × 7	25 0	,,
3 × 6	25 0	,,
3 × 11	34 0	,,
2 × 11	32 0	,,
3 × 9	30 0	,,
2½ × 9	30 0	,,
3 × 4½	20 10	,,
3 × 4	20 10	,,

PLANED BOARDS.

1 × 11	42 10	,,
1 × 9	37 10	,,

PLAIN EDGE FLOORING.

Inches		
½	20/-	per square
¾	22/6	,,
1	25/-	,,
1¼	32/6	,,
1½	44/-	,,

TONGUED AND GROOVED FLOORING.

Inches		
1	25/-	per square
1¼	32/6	,,
1½	44/-	,,

WOOD (*Continued*).

MATCHINGS (BEST).

Inches		
½	17/6	per square
¾	22/6	,,
1	25/-	,,

Inches	BATTENS.	s. d.	
¾ × 2		3 0	per 100 ft.

SAWN LATHS.

Per bundle 0 4 0

Dry Wainscot Oak, per ft. super, as inch	0	2	6 to	0	3 0
½ in. do. do.	0	1	10½ to	0	2 6
Dry Mahogany—Honduras, Tabasco, African, per ft. super, as inch	0	2	3 to	0	3 0
Cuba Mahogany	0	3	6 to	0	4 0
Teak (Rangoon, Moulmein or Java), per load	52	10	0 to	55	0 0
American Whitewood planks, per ft. cube	0	16	0 to	0	18 0
Best Scotch Glue, per cwt.	9	5	0 to	—	
Liquid Glue, per cwt.	5	3	0 to	6	10 0

SLATES.

1st quality slates from Bangor or Portmadoc in truck load delivered London area. Per 1,000 of 1,200.

		£ s. d.
Best Blue Bangor Slates,	24 by 12	46 10 0
,, ,, ,,	22 by 12	42 5 0
First quality ,,	22 by 11	39 0 0
,, ,,	20 by 12	37 2 6
Best Blue Portmadoc	20 by 10	31 15 0
,, ,,	18 by 10	26 5 0
First quality ,,	18 by 9	23 2 6
,, ,,	16 by 10	22 0 0
,, ,,	16 by 8	17 2 6

TILES.

	Per 1,000 f.o.r. London. £ s. d.
Best machine-made tiles from Broseley or Staffordshire district	7 0 0
Ditto hand-made ditto	7 15 0
Ornamental ditto	8 0 0
Hip and valley tiles (per dozen)	0 12 0

METALS.

JOISTS, GIRDERS, &C., TO LONDON STATION PER TON—

	£ s. d.
R. S. Joists, cut and fitted	14 10 0
Plain Compound Girders	16 10 0
,, ,, Stanchions	18 0 0
In Roof Work	22 0 0

WROUGHT IRON TUBES AND FITTINGS—

(Discount off List for lot of not less than £15 net value delivered direct from Works. 5 per cent. less above gross discounts, carriage forward if sent from London Stocks.)

Tubes, (all sizes).	Fittings, Up to 2″.	Fittings, Over 2″.	Flanges, Up to 2″.	Flanges, Over 2″
Gas 47½%	45 %	50 %	60 %	65 %
Water ..41½%	40 %	45 %	55 %	60 %
Steam ..35 %	35 %	40 %	50 %	55 %
Galv'd—				
Gas ..32½%	37½%	42½%	52½%	57½%
Water 25 %	32½%	37½%	47½%	52½%
Steam 17½%	27½%	32½%	42½%	47½%

L.C.C. COATED SOIL PIPES—London Prices ex works.

	Pipe. s. d.	Bends, stock angles. s. d	Branches, stock angles. s. d.
2 in. per yd. in 6fts plain	4 7	3 7	4 4
2½ in. ,,	5 6	3 11	5 5
3 in. ,,	6 6	4 4	6 6
3½ in. ,,	7 2	5 5	7 6
4 in. ,,	8 3	6 1	8 7

RAIN-WATER PIPES, &C.

	Pipe. s. d.	Bends, stock angles. s. d	Branches, stock angles. s. d.
2 in. per yd. in 6fts. plain	2 11	2 3½	3 1½
2½ in. ,, ,,	3 3	2 8½	3 9
3 in. ,, ,,	3 10½	3 4	5 0
3½ in. ,, ,,	4 6½	3 11½	5 10
4 in. ,, ,,	5 2	4 9½	7 0

L.C.C. DRAIN PIPES.—9 ft. lengths. London Prices per yd.: 4 in., 6/3. .. 5 in., 7/10. .. 6 in., 9/6.

	Per ton in London. £ s. d.		£ s. d.
IRON—			
Common Bars	13 10 0	to	14 10 0
Staffordshire Crown Bars — good merchant quality	14 10 0	..	15 10 0
Mild Steel Bars	17 10 0	..	18 10 0
Steel Bars. Ferro-Concrete quality, basis price	12 10 0	..	13 10 0
Hoop Iron, basis price	18 0 0	..	19 0 0
,, ,, Galvanised	31 0 0	..	33 0 0
Soft Steel Sheets, Black—			
Ordinary sizes to 20 g.	16 0 0	..	17 0 0
,, ,, ,, 24 g.	17 0 0	..	18 0 0
,, ,, ,, 26 g.	18 10 0	..	20 10 0
Sheets Flat Best Soft Steel, C.R. & C.A. quality—			
Ordinary sizes, 6ft. by 2ft. to 3ft. to 20 g.	21 0 0	..	22 0 0
Ordinary sizes, 6ft. by 2ft. to 3ft. to 22 g. and 24 g.	22 0 0	..	23 0 0
Ordinary sizes, 6ft. by 2ft. to 3ft. to 26 g.	24 0 0		26 0 0
Flat and Galvanised Corrugated Sheets—			
Ordinary sizes, 6 ft. to 9ft. 20 g.	21 10 0	..	22 10 0
Ordinary sizes, 6ft. to 9ft. 22 g. and 24 g.	22 0 0	..	23 0 0
Ordinary sizes, 6ft. to 9ft. 26 g.	24 0 0	—	25 0 0

METALS (*Continued*).

	Per ton in London. £ s. d.		£ s. d.
Sheets Galvanised Flat, Best quality—			
Best Soft Steel Sheets, 6ft. by 2ft. to 3ft. to 20g. and thicker	27 0 0	..	28 0 0
Best Soft Steel Sheets, 22 g. and 24 g.	28 0 0	..	29 0 0
Best Soft Steel Sheets, 26 g.	30 0 0	..	31 0 0
Cut Nails, 3in. to 6in.	25 0 0	..	26 0 0

(under 3in. usual trade extras.)

METAL WINDOWS—Standard sizes suitable for complete houses, including all fittings, painting two coats, and delivery to job, average price about 3s. per foot super.

LEAD, &c.

Delivered in London.

LEAD—Sheet, English, 4 lb. and up	32 0 0	..	—
Pipe in coils	32 10 0	..	—
Soil Pipe	35 0 0	..	—
Compo pipe	36 0 0	..	—

NOTE—Country delivery, 30s. per ton extra; lots under 5 cwt., 1s. 6d. per cwt. extra. Cut to sizes, 2s. cwt. extra.

Old lead, ex London area, at Mills ..... per ton	18 0 0	..	—
Do., ex country, carriage forward ..... per ton	19 0 0	—	—

COPPER—

Strong Sheet ....per lb.	0 2 3	—	—
Thin ,, ... ,,	0 2 4	..	—
Copper nails .... ,,	0 2 3	..	—
Copper wire .... ,,	0 2 4	..	—
TIN—English Ingots ,,	0 1 9	..	—
SOLDER—Plumbers' ,,	0 0 10	..	—
Tinmen's ,,	0 1 0	..	—
Blowpipe ,,	0 1 3	..	—

GLASS.

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES AND IN SQUARES IN ORDINARY SIZES.

	Per Ft.		Per Ft.
15 oz. fourths	4½d.	32 oz. fourths	9½d.
,, thirds	5½d.	,, thirds	11d.
21 ,, fourths	6½d.	Obscured Sheet, 15 oz.	7d.
,, thirds	6½d.	21 ,,	9d.
26 ,, fourths	7½d.	Fluted and Enamelled 15 ,,	11d
,, thirds	8½d.	21 ,,	1/2

Extra price according to size and substance for squares cut from stock.

ENGLISH ROLLED PLATE IN CRATES OF STOCK SIZES.

	Per Ft.
¼ Rolled plate	4½d.
13/64 Rough rolled	6d.
¼ Rough rolled	6½d.
Figured Rolled, Oxford Rolled, Baltic, Oceanic Arctic, Stippolyte, and small and large Flemish white	7d.
Ditto, tinted	9½d.
Rolled Sheet	6d.
White Rolled Cathedral	5½d.
Tinted do.	7½d.

Cast Plate is same price as rough rolled.

PAINTS, &c.

		£ s. d.
Raw Linseed Oil in pipes ..... per gallon		0 3 10
,, ,, ,, in barrels .... ,,		0 3 11
,, ,, ,, in drums .... ,,		0 4 0
Boiled ,, ,, in barrels .... ,,		0 4 3
,, ,, in drums .... ,,		0 4 5
Turpentine in barrels ..... ,,		0 6 2
,, in drums (10 gall.) .. ,,		0 6 5
Genuine Ground English White Lead, per ton (In not less than 5 cwt. casks.)		55 10 0

GENUINE WHITE LEAD PAINT—

"Father Thames." "Nine Elms," "Park." "Supremus" and other best brands (in 14 lb. tins) not less than 5 cwt. lots ..... per ton delivered 76 15 0

Red Lead, Dry (packages extra) ..	per ton	38 0 0
Best Linseed Oil Putty	per cwt.	0 17 0
Filocol	per cwt.	0 15 6
Size. X D Quality	fkn.	0 4 6

VARNISHES, &c.

		Per gallon. £ s. d.
Oak Varnish	Outside	0 15 0
Fine ditto	ditto	0 17 2
Fine Copal	ditto	1 1 6
Pale Copal	ditto	1 2 6
Pale Copal Carriage	ditto	1 4 6
Best ditto	ditto	1 14 6
Floor Varnish	Inside	0 19 0
Fine Pale Paper	ditto	0 18 0
Fine Copal Cabinet	ditto	1 2 6
Fine Copal flatting	ditto	1 0 6
Hard drying Oak	ditto	0 18 0
Fine Hard drying Oak	ditto	0 19 0
Fine Copal Varnish	ditto	1 0 6
Pale ditto	ditto	1 2 6
Best ditto	ditto	1 14 6
Best Japan Gold Size		0 12 6
Best Black Japan		0 18 0
Oak and Mahogany Stain (water)		0 17 6
Brunswick Black		0 11 0
Berlin Black		0 16 6
Knotting (patent)		1 16 0
French and Brush Polish		1 8 0
Liquid Dryers in Terebine		0 13 6
Cuirass Black Enamel		0 7 0

* The information given on this page has been specially compiled for THE BUILDER and is copyright. Our aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the highest or lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

CURRENT PRICES FOR BUILDING WORK IN LONDON.*

EXCAVATOR.

		s.	d.
Digging and throwing or wheeling and filling carts, and carting away to shoot—6 ft. deep	per yard cube	15	6
Add if in clay	" "	1	9
Add for every additional depth of 6 ft.	" "	1	3
Planking and strutting to trenches	per foot super	0	7
Do. to sides of excavation, including shoring	" "	1	2

CONCRETOR.

Portland cement concrete in foundation 1 to 6	per yard cube	43	0
Add if in underpinning in short lengths	" "	9	6
Add if in floors 6 in. thick	" "	3	10
Add if in beams	" "	4	9
Add if aggregate 1 : 2: 4	" "	12	0
Add for hoisting not exceeding 10 ft. beyond the first 10 ft.	" "	4	0

BRICKLAYER.

		£	s.	d.
Reduced brickwork in lime mortar and Fletton bricks	per rod	39	15	0
Add if in stocks	"	8	10	0
Add if in Staffordshire blues	"	25	10	0
Add if in Portland cement and sand	"	3	10	0

FACINGS.

Extra for facing in English or Flemish bond for every 10s. per 1,000 over the price of the common bricks	per ft. super	0	0	1½

POINTING.

Neat flat strucks or weathered joint	" "	0	0	3

ARCHES.

Extra only to the price of ordinary brickwork :—				
Fair external in half brick rings	" "	0	0	11½
Axed in stocks	" "	0	1	11
Rubbed and gauged jointed in putty camber or segmental	" "	0	6	8

SUNDRIES.

Damp course in double course of slates breaking joint and bedded in Portland cement	" "	0	1	5
Setting ordinary register grates and stoves	each	1	1	0
Setting kitchener, including forming flues, &c., with all necessary fire bricks	"	5	5	0

ASPHALTER.

		s.	d.
Half-inch horizontal damp course	per yard sup.	7	6
Three-quarter-inch vertical damp course	" "	11	8
¾ inch on flats in two thicknesses	" "	8	6
Angle fillet	per foot run	0	3
Skirting and fillet 6 in. high	" "	1	4

MASON.

York stone templates fixed	per foot cube	16	3
York stone sills fixed	" "	28	6
Bath stone and all labour fixed	" "	15	0
Portland stone fixed	" "	23	0

SLATER.

Welsh 16 in. × 8 in. 3 in. lap, including nails	per square	98	0
Do. 20 in. × 10 in. Do. Do.	"	115	0
Do. 24 in. × 12 in. Do. Do.	"	117	6

CARPENTER AND JOINER.

Fir framed in plates	per foot cube	6	9
Do. joists	" "	7	9
Do. roofs, floors and partitions	" "	7	9
Do. trusses	" "	10	0

		¾"	1"	1¼"	2"
Deal rough close boarding	per sq.	42/-	48/-	56/-	85/-

Flat centering for concrete floor, including struts or hangers	"	63	0
Do. to beams	per ft. sup.	1	6
Centres for arches	"	2	0
Gutter boards and bearers	"	1	6

FLOORING.		¾"	1"	1¼"	1½"
Deal-edges shot	per sq.		49/-	58/-	67/-
Do. tongued and grooved	"		54/-	65/-	72/-
Do. matchings	"	45/-	55/-		
Moulded skirting, including backings and grounds	per ft. sup.	1/8	2/1	2/3	2/9

SASHES AND FRAMES.

		s.	d.
One-and-a-half moulded sashes or casements	per foot super	1	11
Two Do. Do. Do.	" "	2	4½
Add for fitting and fixing	" "	0	6
Deal-cased frames with 1 in. inner and outer linings, 1½ in. pulley stiles tongued to linings, hard wood sills with 2 in. moulded sashes in squares double hung, double hung with pulleys, lines and weights ; average size	" "	4	9

DOORS.		1¼"	1¾"	2"
Two-panel square framed	per ft. sup.	2/6	2/9	2/11
Four-panel Do.	"	2/10	3/2	3/5
Two-panel moulded both sides	"	3/2	3/5	3/8
Four-panel Do. Do.	"	3/6	3/9	4/-

CARPENTER AND JOINER—continued.

FRAMES.

		s.	d.
Deal wrot moulded and rebated	per foot cube	15	6

		1"	1¼"	1½"
Plain deal jamb linings framed	per ft. sup.	1/11	2/-	2/3
Deal shelves and bearers	"	1/8	1/10	2/1
Add if cross tongued	"	2d.	2d.	2d.

STAIRCASES.

	1"	1¼"	1½"	2"	2½"
Deal treads and risers in and including rough brackets	2/3	2/6	2/11	—	—
Deal strings wrot on both sides and framed	1/9	2/1	2/3	2/9	—

		s.	d.
Housings for steps and risers	each	0	11½
Deal balusters, 1 in. × 1¼ in.	per ft. run.	0	9
Mahogany handrail ; average 3 in. × 3 in.	" "	6	0
Add if ramped	" "	11	10
Add if wreathed	" "	23	9

FIXING ONLY IRONMONGERY (INCLUDING SCREWS).

6 in. barrel bolts	8½d.	Rim locks	2/4½
Sash fasteners	11½d.	Mortice locks	5/3
Casement fasteners	1/5	Patent spring hinges and letting in to floor and making good	19/-
Casement stays	1/2		
Cupboard locks	1/5		

FOUNDER AND SMITH.

		s.	d.
Rolled steel joists	per cwt.	20	0
Plain compound girders	"	23	0
Do. stanchions	"	26	0
In roof work	"	31	0

RAIN-WATER GOODS.

		3"	4"	5"	6"
Half-round plain rebated joints	ft. run	1/11	2/4½	3/7	4/-
Ogee Do. Do.	"	2/4½	3/1	3/10	4/9
Rain-water pipes with ears	"	2/9	3/7		
Extra for shoes and bends	each	4/4	5/11		
Do. stopped ends	"	1/11	2/4½	3/7	4/-
Do. nozzles for inlets	"	2/2	2/7	3/10	4/3

PLUMBER.

		s.	d.
Milled lead and laying in flashings and gutters	per cwt.	56	0
Do. Do. in flats	"	52	0
Extra labour and solder in coated cesspools	each	7	4
Welt joint	per ft. run.	0	6
Soldered seam	" "	1	10
Copper nailing	" "	0	7

		½"	¾"	1"	1½"	2"	4"
Drawn lead waste	per ft. run	10d.	1/6	1/9	3/1	3/10	
Do. service	"	1/5	1/11	2/3	3/6		
Do. soil	"						6/2
Bends in lead pipe	each					3/3	8/2
Soldered stop ends	"	1/2	1/8	2/1	2/10	3/6	
Red lead joints	"	11d.	1/-	1/3	1/11	2/4	4/10
Wiped soldered joints	"	2/10	3/6	4/-	4/11	6/6	9/9
Lead traps and cleaning screws	"				14/7	19/6	
Bib cocks and joints	"	6/4	9/7	15/4	41/-		
Stop cocks and joints	"	15/4	17/2	25/8	64/-		

PLASTERER.

		s.	d.
Render, float and set in lime and hair	per yard sup.	3	2
Do. Do. Sirapite	" "	3	7
Do. Do. Keen's	" "	4	9
Add sawn lathing	" "	1	9
Add metal lathing	" "	3	0
Portland cement screed	" "	2	9
Do. plain face	" "	4	6
Mouldings in plaster	per 1 girth	3	3
One-and-a-half granolithic pavings	per yard sup.	6	7

GLAZIER.

		s.	d.
21 oz. sheet plain	per foot sup.	1	1
26 oz. Do.	" "	1	4
Obscured sheet	" "	1	8
⅛ in. rolled plate	" "	1	0
¼ in. rough rolled or cast plate	" "	1	1
¼ in. wired cast plate	" "	1	7

PAINTER.

		s.	d.
Preparing and distempering, 2 coats	per yard sup.	1	3
Knotting and priming	" "		8
Plain painting 1 coat	" "	1	0
Do. 2 coats	" "	1	9
Do. 3 coats	" "	2	6
Do. 4 coats	" "	3	3
Graining	" "	2	8
Varnishing twice	" "	2	0
Sizing	" "	0	4
Flatting	" "	0	8
Enamel	" "	1	6
Wax polishing	per foot sup.	0	10½
French polishing	" "	1	3
Preparing for and hanging paper	per piece	2/- to 4/-	

* These prices apply to *new buildings only*. They cover superintendence by foreman and carry a profit of 10% on the prime cost without establishment charges. A percentage of 1½ should be added for Employers' Liability and National Health and Unemployment Acts and from 1s. 6d. per £100 for Fire Insurance. The whole of the information given on this page is copyright.

TENDERS.

Communications for insertion under this heading should be addressed to "The Editor," and must reach him not later than Tuesday evening.

*Denotes *accepted*. † Denotes *provisionally accepted*.
‡ Denotes *recommended for acceptance*.
§ Denotes *accepted subject to modifications*.

AMMANFORD.—For erection of the Eisteddfod pavilion, for the Welsh National Eisteddfod :—
*L. H. Woodhouse & Co., Nottingham £4,000

BARNSLEY.—Construction of a filter house with appurtenant works, at Midhope Reservoir, for the T.C. Mr. J. R. Fox, Water Engineer, Waterworks Office, Doncaster-road, Barnsley: —

M. H. Mellor, Penistone	£4,500	0	0
C.W.S., Ltd., Manchester	4,314	0	0
Geo. Haigh & Sons, Barnsley	3,645	0	0
C. D. Potter, Barnsley	3,495	14	6
Smith & Heywood, Shepley	3,075	18	7
A. Graham & Sons, Huddersfield	2,997	0	2
A. Waddington, Sheffield	2,609	7	6
*Smith & Hawley, Sheffield	2,297	12	8

FAILSWORTH.—For (*a*) plumber's work; (*b*) supply of sanitary fittings; (*c*) supply of glazed earthenware pipes for closet conversion scheme. Mr. J. W. E. Brown, Surveyor, Town Hall, Failsworth :—
Plumber—
*Walter Shaw, Oldham.
Fittings—
*Giddings & Dacre, Salford.
Pipes—
*F. G. V. Freeman, Hollinwood.

GRAYS.—For erection of a new ward and administration block of corrugated iron and wood framing, with the necessary work to foundations, drains, &c., at the smallpox hospital, for the Orsett Joint Hospital Board. Mr. H. A. Porter, architect, 22, Surrey-street, Strand, W.C. :—

Harrison & Co., London	£5,509	..	—	..(*b*) 3
Humphries, Ltd., London	5,462	(*a*)£100	..	—
Harbrow, Ltd., London	5,078	..	—	..(*b*) 3
Marrable's, London	4,970	..	—	..(*b*) 4½
Clements, Grays	4,967	..	—	..(*b*) 5
Philbey, Grays	4,900	..	—	..(*b*) 5
Sycamore Works, Wimbledon	4,846	..	—	..(*b*) 3
Baker, Hammond & Laver, Ltd., Rainham	4,522	..	—	..(*b*) 3
Carter, Grays	4,520	..	—	..(*b*) 3
Lavington, Ltd., London	4,500	..	—	..(*b*) 4
Ellingham, Dartford	4,490	..	—	.. —
Perry & Co., London	4,373	(*a*) 250		..(*b*) 8
Cearns, Stratford	4,319	(*a*) 125		..(*b*) 3
*Walsham, Grays	4,174	(*a*) 35		..(*b*) 3
Seymour Const. Co., Barking	3,982	(*a*) 85		..(*b*) 3
Brown Bros., Grays	3,978	..	—	..(*b*) 5
Pavitt Bros., Purfleet	3,900	..	—	..(*b*) 6

(*a*) Extra if built in sections; (*b*) Time for completion, months.

HAWARDEN.—Erection of 22 houses, Type "A," at Saltney, near Chester, for the R.D.C. Mr. Fred Barrett, Surveyor, Hawarden :—
*Butler Bros., Birmingham £11,880

HUDDERSFIELD.—For erection of 41 workmen's dwellings (in two contracts), at Moorside-avenue, Crosland Lodge Estate, for the Corporation. Mr. H. Sutcliffe, Borough Architect, 1, Peel-street, Huddersfield; quantities by Borough Architect :—
Mason—
*J. Radcliffe & Sons, Huddersfield.
Joiner—
*G. Ainley & Sons, Huddersfield.
Plumber—
*Sam Thackray, Huddersfield.
Plasterer—
*J. Robinson & Sons, Huddersfield.
Slater—
*W. E. Jowitt, Huddersfield.
Painter—
*Arnold Preston, Huddersfield.
Electric Work—
*Edward Rayner, Huddersfield.

LONDON.—For repairs to roof and wall of Great Smith-street Baths, for the Westminster C.C. :—

Wright & Son	£172 14
Army & Navy Co-operative Society, Ltd.	160 10
J. R. Sims	148 7
*Townsend & Pearson, Ltd.	144 0

LONDON.—For tar painting, for the Westminster C.C. :—
*Sutcliffe & Son—
Class 1 Roads 2¼d. per sq. yd.
" 2 " 2⅜d. " "
" 3 " 3 7/16d. " "

LONDON.—For supply of wood paving blocks, to the Westminster C.C. :—
*Acme Flooring & Paving Co... 20,000 deal blocks (5 per cent. sapwood) at from £29 9s. to £24 16s. per 1,000.
*Calder & McDougall.. 125,000 deal or spruce blocks (10 per cent. sapwood), at from £16 0s. 1d. to £13 7s. per 1,000.

LONDON.—For foundation work in connection with installation of refuse salvage plant at Grosvenor Canal, for the Westminster C.C. :—

John Shelbourne & Co.	£3,877	0	0
H. Sabey & Co.	3,383	0	0
Townsend & Pearson, Ltd.	3,068	0	0
Higgs & Hill, Ltd.	2,836	0	0
John Mowlem & Co., Ltd.	2,792	1	6
*Thomson, Alexander & Co.	2,189	0	0

LONDON.—Supply of 200 yds. of "Non-slip" paving slabs to the Westminster C.C. :—
*Nonslip Stone Co., Halifax £145

LONDON.—For alterations and conversion to service flats at 1, Park-lane, and at 134, Piccadilly. Mr. J. A. Emes, A.R.I.B.A., architect, 21, Surrey-street, W.C. :—

Robersons, Ltd.	£6,400		
Wm. Willett, Ltd.	6,295		
Holland Hannen & Cubitts, Ltd.	5,975		
Catterall & Sons	5,900		
Roscoe Bros. & Co.	5,850		
*E. A. Roome & Co., Ltd.	5,781		

LONDON.—For painting and repairs at the Southwark Casual Ward, for the Metropolitan Asylums Board:

J. S. Fenn, Woolwich	£324	10	0
Stoneley & Co., Forest Bate	319	0	0
W. Bickerton, Catford	318	18	0
Douglass, Halse & Co., Ltd., Woolwich	317	0	0
J. E. Ree, Leytonstone	306	18	0
Edwards Construction Co., Ltd., Eltham	298	0	0
Myall Bros., Ilford	295	0	0
H. A. Thomas & Son, Dulwich	278	6	0
G. H. Miller & Co., Forest Gate	226	5	7
*J. J. Woollaston, Tottenham	212	17	0

LONDON.—Supply of steam driven horizontal duplex fire pump to Darenth Training Colony, for the Metropolitan Asylums Board :—

Truslove & Co., E.C.	£318	0	
Worthington-Simpson, Ltd., W.C.	297	0	
Sir W. H. Bailey & Co., Salford	292	0	
Tangyes, Ltd., E.C.	279	0	
Jos. Evans & Sons, E.C.	273	10	
A. G. Mumford, Ltd., E.C.	263	10	
Lee, Howl & Co., E.C.	256	10	
*Hayward, Tyler & Co., Ltd., E.C.	237	10	

LONDON.—For tar-paving work at the King Edward Memorial Park at Shadwell, for the L.C.C. :—

The Ragusa Asphalte Co., Ltd., Bow, E.	5s.	3d.	a yard
Constable Hart & Co., Ltd., E.C.	4s.	2d.	"
John Wainwright & Co., Ltd., N.W.	4s.	1d.	"
A. C. W. Hobman & Co., Ltd., Bermondsey	3s.	9d.	"
*Chittenden & Simmons, Ltd., S.W.	3s.	7d.	"

MIDLOTHIAN.—For extensions to West Calder High Schools, for the Midlothian E.C. The County Education Officer, 1, India Buildings, Edinburgh :—
Mason and steel—
*R. Bruce & Son, Edinburgh £4,990 0 0
Carpenter and joiner—
*D. Sommerville & Son, West Calder 2,078 19 0
Glazier—
*A. Cunningham & Co., Edinburgh 127 11 0
Plumber—
*P. Knox & Son, Edinburgh 845 0 0
Plaster and cement—
*A. Lind & Sons, West Calder 1,098 17 3
Slater and tarling—
*W. Anderson & Son, Edinburgh £651 1 2
Asphalte—
*F. B. Hood & Co., Leith 103 14 6

MYNYDDISLWYN.—For erection of 60 houses at Penllwyn, for the U.D.C. :—
*W. J. Simms, Son & Cooke, Nottingham.

SWANSEA.—Erection of 119 houses in groups of 18, 20, 24, 33, and 24, on the Town Hill Estate, for the T.C. Mr. E. E. Morgan, Borough Architect, Swansea :—

W. H. Harding, Ltd., Swansea	£89,997
Thomas Johns & Co., Swansea	89,760
Lloyd Bros., Swansea	88,544
Griffith Davies & Co., Swansea	87,193
T. & G. Spragg, Swansea	85,541
C. Tyler, Swansea	85,541
T. D. Jones, Swansea	85,493
Walters & Johns, Swansea	83,911
W. T. Nicholls, Ltd., Gloucester	82,153
J. Pye & Co., Ltd., Swansea	78,406
Walter Jones & Sons, Westminster	76,526
Building Guild, Ltd., Manchester	76,455
Burkitt & Thorneycroft, Tipton	73,378
Unit Construction Co., Ltd., Birmingham	66,942
‡W. Alban Richards & Co., Ltd., London	65,557
James Bros., Swansea (38 houses)	33,599
T. Richards, Swansea (24 houses)	18,406

(The above tenders include the cost of all foundations, drainage, site work and boundaries, and wiring for electricity.)

UTTOXETER.—For laying water main in Manor-road, for the U.D.C. :—
*Phillips & Son £123 11 6

WEALDSTONE.—For erection of 10 houses, type "B," in Meadow Way, for the U.D.C. Mr. H. Walker, Surveyor, Council Offices, Wealdstone, Middlesex :—

A. Eldridge, Watford	"A"	£6,970	0	0
	"B"	6,903	0	0
Guild of Builders, Ltd., London	"A"	6,865	0	0
	"B"	6,565	0	0
R. G. Booth, Harrow	"A"	6,545	0	0
	"B"	6,465	0	0
H. Carter & Son, Wealdstone	"A"	5,811	13	4
	"B"	5,775	18	9
G. Greenwood & Sons, Brixton	"A"	5,810	0	0
	"B"	5,670	0	0
W. King & Sons, Watford	"A"	5,790	0	0
	"B"	5,590	0	0
J. C. Rackham, Harrow Weald	"A"	5,710	0	0
	"B"	5,600	0	0
Adams Housing Syndicate, Ltd., Uxbridge	"A"	5,663	17	6
	"B"	5,543	15	0
Draper Bros., South Harrow	"A"	5,510	15	0
	"B"	5,429	15	0
H. Pickrill, Wealdstone	"A"	5,498	0	0
	"B"	5,450	0	0
W. Taylor, Harrow	"A"	5,485	0	0
	"B"	5,416	0	0
J. & C. Costin, Harrow	"A"	5,400	0	0
(*special tiles*)	"B"	5,325	0	0
†H. Brown, Harrow Weald	"A"	5,400	0	0
	"B"	5,338	0	0

("A," *tiled roofs*. "B," *slated roofs*.)

WELWYN.—For erection of 50 cottages, for the R.D.C. Mr. H. G. Cherry, supervising architect, 97, Jermyn-street, S.W. Quantities by Mr. E. C. Desch, 3, Pump-court, Temple, E.C. :—

	Clause included varying the price to meet fluctuations in wages and materials.	Clause amended to meet fluctuations in wages only.
A. J. Haward, Hoddesdon	£47,943 0 0	£47,704 0 0
F. Hitch & Co., Ware	44,208 11 6	44,208 11 6
Ekins & Co., Hertford	41,675 0 0	—
Garston Ideal Homes, Ltd., Watford	40,822 0 0	—
Clark Bros., Ltd., Watford	40,728 0 0	39,800 0 0
William Slough, Barnet	40,600 0 0	45,111 0 0
R. Ginn & Son, Hertford	39,999 0 0	39,699 0 0
Thurgood & Son, Much Hadham	39,900 0 0	39,000 0 0
J. Falkner & Son, London	39,784 0 0	39,000 0 0
Geo. Slade & Co., Ltd., Islington	39,727 10 0	38,933 0 0
A. J. Eldridge, Watford	39,084 0 0	— —
J. Wilmot & Sons, Hornsey	38,932 0 0	38,932 0 0
J. A. Hunt (Hoddesdon), Ltd., Hoddesdon	38,650 0 0	38,250 0 0
Smith Bros. (Burnley), Ltd., Burnley	38,535 0 0	36,608 5 0
Norris & Co., Sunningdale	38,500 0 0	38,500 0 0
Crace & Marsh, Ltd., Croydon	37,972 0 0	—
C. Miskin & Sons, St. Albans	37,740 0 0	38,683 0 0
Palmer & Armitage, Letchworth	37,721 0 0	35,925 0 0
S. Gee & Sons, Ltd., Derby	37,667 0 0	35,784 0 0
W. Watkins & Sons, Ltd., London	36,984 0 0	—
Foster & Co., Hitchin	36,850 0 0	36,700 0 0
John Ray, Letchworth	36,175 0 0	35,700 0 0
Albert Monk, Lower Edmonton	35,760 0 0	35,600 0 0
W. W. Webster, Northampton	35,700 0 0	35,000 0 0
Collinson & Co., Ltd., Teddington	35,602 0 0	35,602 0 0
Bennett Bros., Letchworth	35,359 19 6	34,299 0 0
G. H. Bennett, Forest Gate	35,300 0 0	— —
Alban Richards & Co., London	35,256 0 0	34,000 0 0
D. C. Pearce, Letchworth	35,234 0 0	36,115 0 0
Arthur Cole, Ltd., Luton	35,173 0 0	34,998 0 0
A. Glenn & Son, Northampton	35,125 0 0	34,000 0 0
A. L. & H. W. Chown, Northampton	35,000 0 0	34,900 0 0
Allen Fairhead & Son, Enfield	35,000 0 0	34,700 0 0
W. Pattinson & Sons, London	34,945 0 0	—
The Guild of Builders, London	34,870 0 0	—
Purnell & Clifford, Reading	34,750 0 0	34,750 0 0
Adams & Co., Wellingborough	33,750 0 0	33,500 0 0
Jeffs & Co., Letchworth	33,500 0 0	—
E. H. White, Luton	33,400 0 0	— —
Walter Jones & Sons, London	33,203 0 0	—
W. Higgins, Northampton	32,990 0 0	—
James Bodle, Ltd., Eastbourne	32,986 0 0	32,175 0 0
F. H. Jeffs, Letchworth	32,825 0 0	—
Chas. Jeyes, Luton	31,670 0 0	31,000 0 0
Frost & Carter, Luton	31,464 0 0	31,464 0 0
H. Lacey & Sons, Luton	31,000 0 0	29,200 0 0
W. C. Morgan, Olney	29,259 0 0	—
Unit Construction Co., London	28,886 18 9	28,886 0 0

WELLINGTON (SALOP).—For (1) Laying-out 2 miles of 7 in. pumping main, &c.; (2) enlargement of pumping station; (3) supply and fixing of standpipe, suction gas engine plant, &c., for the U.D.C. Mr. G. H. Connor, Surveyor, Council Offices, Wellington:—

(1) A. Waterman, Leeds	£9,070	4	6
Currall, Lewis & Martin, Ltd., Birmingham	4,631	0	0
G. H. York & Co., Wellington	4,443	5	6
Muirhead, Macdonald, Wilson, Birmingham	4,006	4	0
Wittaker & Ellis, Ltd., Birmingham	3,530	17	3
H. E. Holloway, Wolverhampton	3,463	12	9
J. Pennington Co. & Inchley Co., Bowdon	3,335	13	0
G. Percy Trentham, Ltd., Birmingham	3,309	19	2
Hanney Bros., Ely	3,214	1	3
Mulcaster, Haslington, Crewe	3,214	1	3
Unit Construction Co., Ltd., Birmingham	3,116	19	0
E. E. Jeavons & Co., Dudley Port	2,998	16	4
H. C. Pullar & Co., Manchester	2,976	1	0
W. Thorpe, Hollywood, Birmingham	2,886	12	6
Roberts (Birmingham), Ltd., Birmingham	2,879	0	0
Martin & Element, Ltd., Smithwick	2,815	6	0
W. H. Rogers, Wolverhampton	2,808	1	1
Lewis & Beck, Birmingham	2,706	6	7
W. Jowett, Prescot	2,668	5	0
Hussen & Egan, Birmingham	2,662	16	0
‡C. S. Tomlinson, South Normanton, near Alfreton	2,600	9	4
Engineer's estimate	2,538	15	8
(2) W. Jowett, Prescot	1,352	12	3
J. Pennington Co. & Inchley & Co., Bowdon	1,352	9	1
G. H. York & Co., Wellington	1,084	0	0
E. E. Jeavons & Co., Dudley Port	1,093	3	2
Unit Construction Co., Ltd., Birmingham	1,044	11	3
A. Roper, Wellington	1,037	0	0
Muirhead Macdonald, Wilson, Birmingham	980	15	9
‡Roberts (Birmingham), Ltd., Birmingham	969	0	0
Engineer's estimate	820	0	0
(3) Mather & Son, Wellingborough	7,395	0	0
Glenfield & Kennedy, Ltd., Kilmarnock	3,749	10	0
A. C. Potter & Co., Grantham	3,639	0	0
Timmins & Son, Runcorn	3,308	2	6
Matthew & Co., Manchester	3,297	5	0
E. & J. Davies, Shrewsbury	3,273	0	0
G. H. York & Co., Wellington	3,241	16	8
General Engineering Co., Radcliffe	3,207	7	3
J. Pennington Co. & Inchley & Co., Bowdon	3,175	16	3
Isler & Co., London	3,060	0	0
Campbell Gas Engine Co., Halifax	3,010	14	0
E. E. Jeavons & Co., Dudley Port	2,981	18	6
Wolstenholm & Son, Radcliffe	2,770	10	0
‡The James Clay (Wellington), Ltd., Wellington	2,741	11	9
Engineer's estimate	3,150	0	0

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J. Clark, Barnsley	2,259	2	0
Rawson Porter, Worsboro' Dale	2,067	10	0
F. Taylor, Barnsley	2,034	1	6
Gorse Hall Construction Co., Chorley	1,849	8	0
A. Graham, Huddersfield	1,513	11	10
G. R. Mellor, Barnsley	1,507	5	0
A. Bedford, Barnsley	1,505	8	8
T. Hollingsworth, Cumberworth, Huddersfield	1,324	5	10½
C. D. Potter, Barnsley	1,319	5	0
Ralph Porter, Worsboro' Dale	1,232	6	9
Dyson Brown, Cleckheaton	1,215	1	0
J. A. Dufton, Todmorden	1,126	10	0
H. Hibbert, Barnsley	956	0	9
*R. Beaumont & Co., Huddersfield	950	14	9

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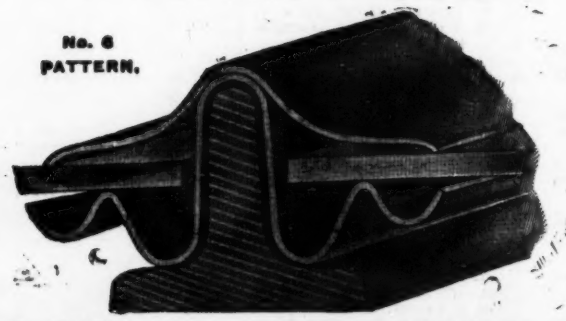
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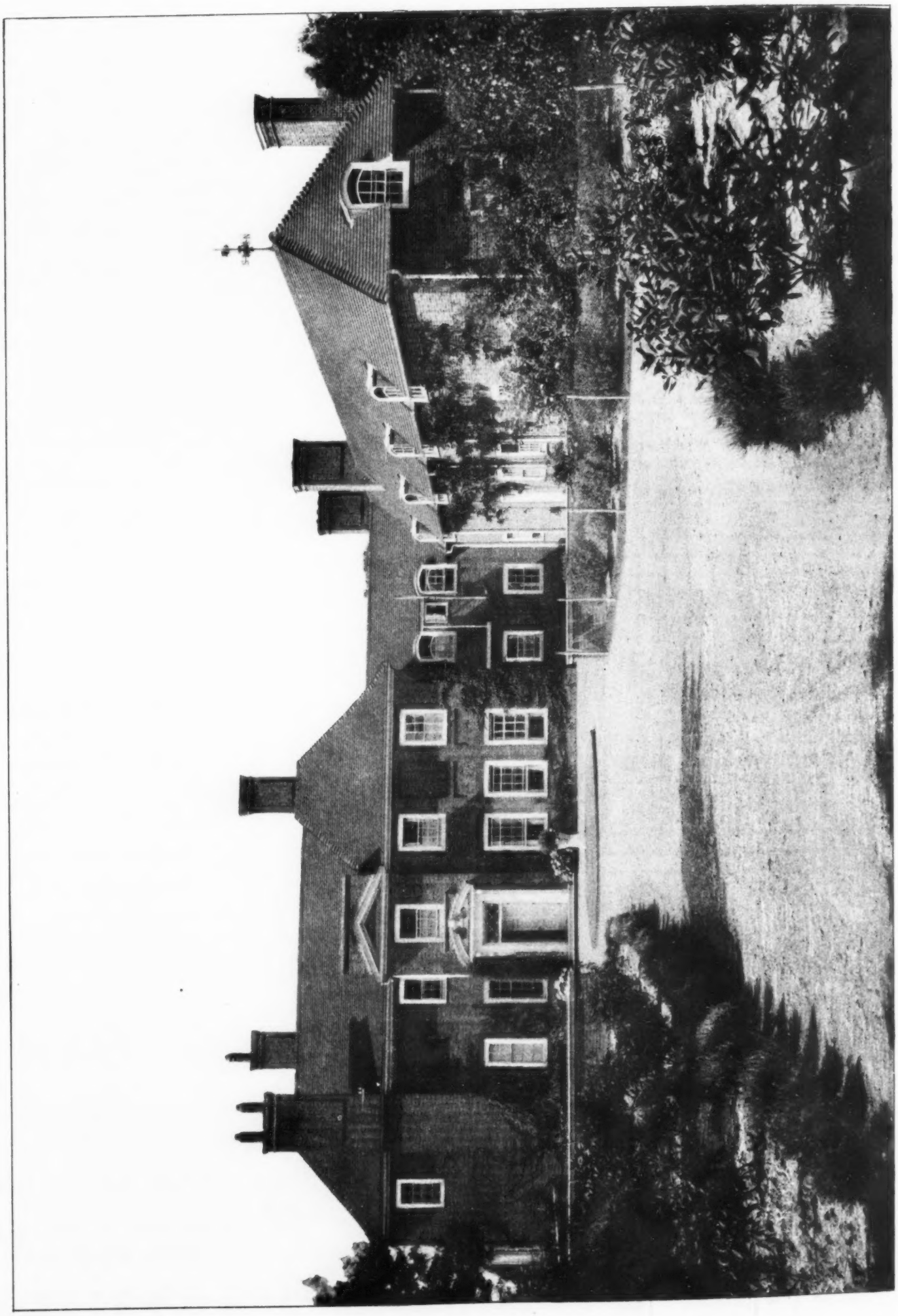

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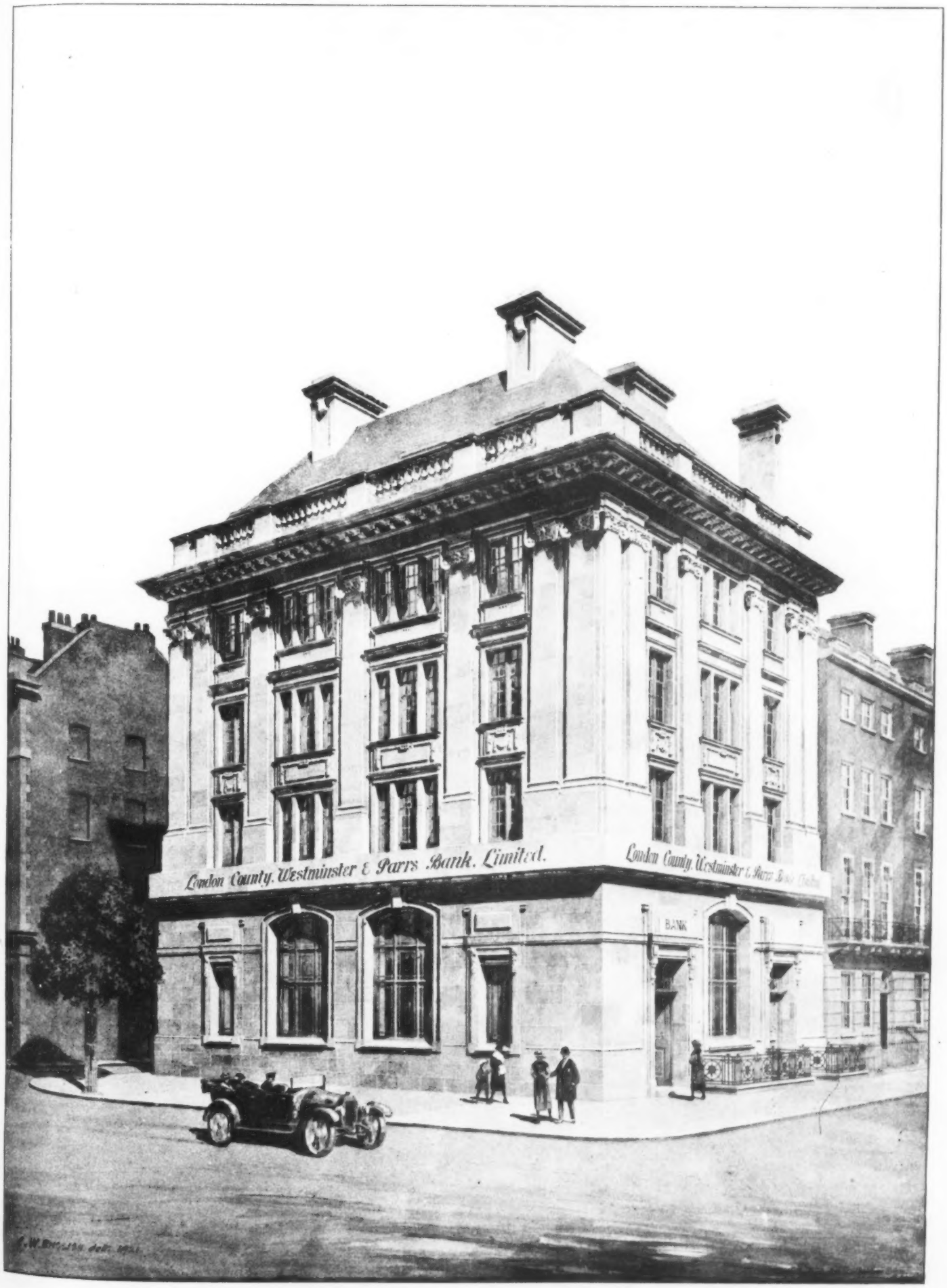

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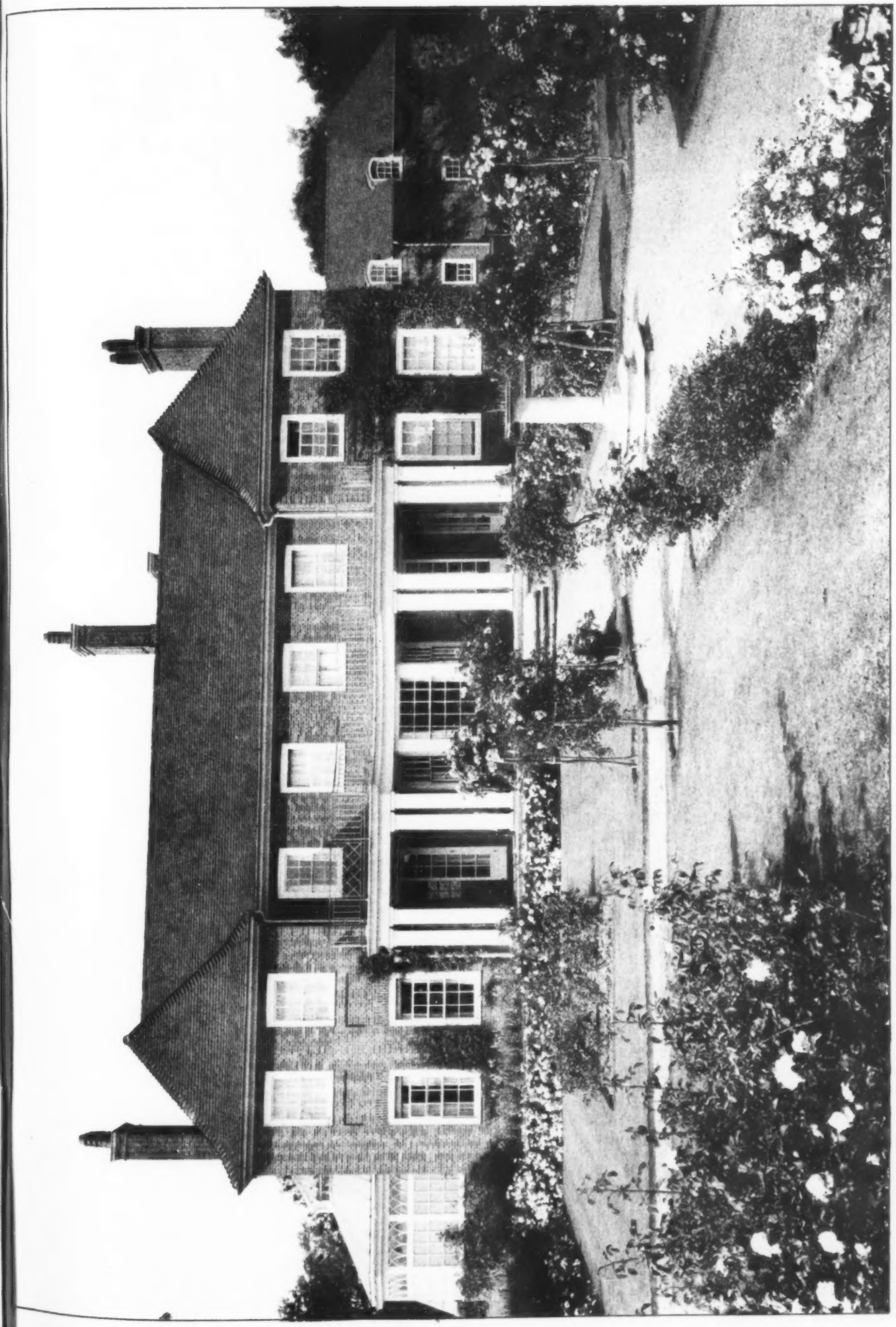

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